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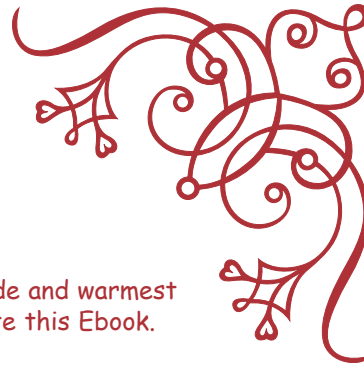
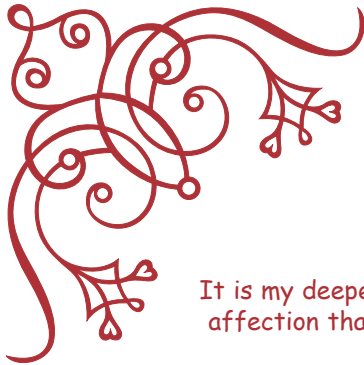
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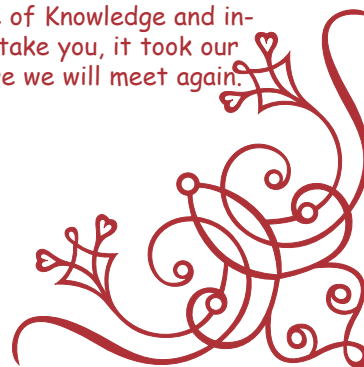
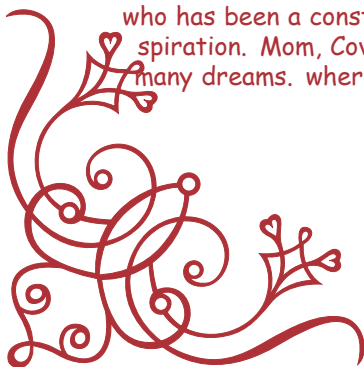


This E-book is dedicated to the loving memory of my mother:
my guiding light, my shining star,
forever



It is my deepest gratitude and warmest affection that I dedicate this Ebook.

To my mother JOYTSNA CHANGDER
who could not see this Ebook.



who has been a constant source of Knowledge and inspiration. Mom, Covid did not take you, it took our many dreams. wherever you are we will meet again.



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1. Teaching aptitude

1.1 Introduction

Aptitude of any student is the internal ability or talent of the student which makes the difference with other student. One simply cannot cultivate aptitude rather aptitude of the student is totally depends on the practices. To be a strong in the aptitude , student must have enormous interest in the area in which they are interested. Teaching aptitude is totally depends on individual's interest towards teaching. To be a good teacher, one must have combination of behavioural characteristics as well as cultural characteristic. The person with real teaching aptitude must be curious, open-minded and obviously he/she must have in-depth knowledge of the subject, including love and faith for student.

1.2 What is teaching?

Teachers are the backbone of every society and they plays a vital role in nurturing the mind of the young child. The best teacher always gives knowledge and skills in very effective ways to young students. Teaching basically means interaction of teacher and students in an interactive way where both of them participate for their mutual benefits. Both the students and teacher can have their own objective and target. Throughout the world there are many great teachers defines teaching in different ways.

Definition 1.1 The one word definition of teaching is just to train the students such that they can stands on their own foot in our modern society.

In teaching, three main aspects are as follows.

- Teacher
- students
- education

A true teacher is one with the following qualities

1. Teacher must identify the weak student in the class
2. Teacher live with the students mentally
3. Teacher must love the students
4. Teacher must identify knowledge of student and build the student on what they have

5. Teacher must give his own shoulder to his student for nurturing such that students can grow mentally and physically
6. Teacher must be friendly with his student up to a certain limit inside the classroom.
7. Teacher must be humorous inside classroom and as well as he/she must have capabilities to control the classroom.
8. A good teacher must have in-depth knowledge of the subject.

1.3 Role of a teacher

Teachers are the backbone of any society. There are several roles a teacher plays to make our society stronger. The way a teacher can lead students is varied from teacher to teacher. Teachers can play the role in variety of ways either formally or informally. The following 10 roles are used by many of the teachers frequently to improve the students mentally, physically and socially. It is not only the case the teacher can be a human beings, a teacher can be any one for example nature can be a teacher for you if you learn something from the nature. Your mother is the best teacher for you because you learnt everything in childhood from your mother.

Definition 1.2 Following are the role of a teacher.

- | | |
|------------------------------------|---------------------------------|
| 1. Resource provider | 6. Mentor |
| 2. Instructional specialist | 7. School leader |
| 3. Curriculum specialist | 8. Data coach |
| 4. Classroom supporter | 9. Catalyst for change |
| 5. Learning facilitator | 10. Learner for lifelong |

1. **Resource provider** : a teacher must help their students and colleagues by sharing instructional resources. The instructional resources might include websites, any instructional documents, any new idea's, or other resources to use with the students.
2. **Instructional specialist** : an instructional specialist always helps colleagues to implement effective teaching strategies in the institution. For example if your students submits new laboratory reports written in very poor English-language, you invite some English teachers to recommend the strategies for writing the instruction in laboratory reports.
3. **Curriculum specialist** : Curriculum specialist must understand the standard of content in the syllabus, how various subjects of the curricula links together and how to use the curriculum such that students can understand better?.
4. **Classroom supporter** : Classroom supporters work inside classrooms to help teachers implement new ideas, often by demonstrating a lesson, co-teaching, or observing and giving feedback.
5. **Learning facilitator** Facilitating professional learning opportunities among staff members is another role for teacher leaders. When teachers learn with and from one another, they can focus on what most directly improves student learning. Their professional learning becomes more relevant, focused on teachers' classroom work, and aligned to fill gaps in student learning. Such communities of learning can break the norms of isolation present in many schools.
6. **Mentor**: Serving as a mentor for novice teachers is a common role for teacher leaders. Mentors serve as role models; acclimate new teachers to a new school; and advise new teachers about instruction, curriculum, procedure, practices, and politics. Being a mentor takes a

great deal of time and expertise and makes a significant contribution to the development of a new professional.

7. **School leader:** Being a school leader means serving on a committee, such as a school improvement team; acting as a grade-level or department chair; supporting school initiatives; or representing the school on community or district task forces or committees. A school leader shares the vision of the school, aligns his or her professional goals with those of the school and district, and shares responsibility for the success of the school as a whole.
8. **Data coach:** Although teachers have access to a great deal of data, they do not often use that data to drive classroom instruction. Teacher leaders can lead conversations that engage their peers in analyzing and using this information to strengthen instruction.
9. **Catalyst for change:** Teacher leaders can also be catalysts for change. Teachers who take on the catalyst role feel secure in their own work and have a strong commitment to continual improvement. They pose questions to generate analysis of student learning.
10. **Learner for lifelong:** Among the most important roles teacher leaders assume is that of learner. Learners model continual improvement, demonstrate lifelong learning, and use what they learn to help all students achieve.

Roles for all Teacher's exhibit leadership in multiple, sometimes overlapping, ways. Some leadership roles are formal with designated responsibilities. Other more informal roles emerge as teachers interact with their students. The variety of roles ensures that teachers can find ways to lead that fit their talents and interests. Regardless of the roles they assume, teacher leaders shape the culture of their schools, improve student learning, and influence practice among their peers.

1.4 Teachers and their tasks

Teaching is a great profession throughout the world. The person who chooses teaching as a profession must believe that all the necessary qualities he must possess to become an effective teachers. Moreover it is also mandatory that they must enjoy working with young kids and at the same time convinced that their effort will lead to betterment of society by nurturing the young kids. It is not a matter of fact that wherever the teacher is teaching, the teacher may teach in kinder garden or in universities. Teacher is typically confronted with the following task

1. Preparing students for learning new topic
2. Presenting learning activities
3. Asking questions to student
4. Monitoring the students learning
5. Giving the students feedback
6. Reviewing the students
7. Identifying the weak student
8. Re-teaching already taught topic
9. Taking the tutorial classes
10. Preparing the students notes
11. Preparing question banks

Definition 1.3 In short the task of a good teacher outlined above encompasses the following points.

1. To bring the desired change in the learners behavior
2. To bring desired change in learners mind

3. To give the students sufficient knowledge about the subject
4. To enhance the skill of the student
5. Motivate the students to participate in social activities
6. Motivate the students to ask for any doubt in their mind
7. Motivate the students that they should not fear from teachers but rather they must be interactive and friendly up to a certain limit.

1.5 Characteristics of a Great/Good Teacher

It is an accepted fact that teachers are usually not born but made. Good teachers nurture their knowledge and skills through constant and deliberate efforts. One of the prerequisite to be good teacher is to understand the teaching learning process in more depth.

Greatness in teaching is just as rare as greatness in medicine, dance, law, or any other profession. Teaching is all about hard work and in this profession some teachers become a great teacher and they became the idol of their students and other teachers never grow to be anything better than mediocre. The great teachers, however, work endlessly to create a challenging, nurturing environment for their dear students. A great teaching seems to have less to do with the knowledge and skills than with our attitude towards our students, subjects, our work. Although this list is certainly not all-inclusive, I have narrowed down the many characteristics of a great teacher to those I have found to be the most essential, regardless of the age of the learner.

1. **A great teacher respects students:** a great teacher inside classroom must be friendly such that every student ideas and opinions are valued equally. Students must feel safe to express their thoughts and feelings and learn to respect and listen to others students. In a single word a great teacher classroom must be a welcoming learning environment for all the students.
2. **A great teacher creates a sense of community and belonging in the classroom :** A great teacher creates a small important community inside the class room. There must be a mutual respect in the classroom which provides a supportive and collaborative environment. In this small environment there are rules to follow and each student must be aware that they are important integral part of the group. A great teacher lets students know that they can depend not only on teacher, but also on the entire class.
3. **A great teacher sets high expectations for all students :** Student expectation must be hardly been a great teacher's classroom. Teachers must know that students generally ask questions or any doubt present in their mind.
4. **A great teacher has his own love of learning :** A great teacher always inspires his student with his passion for education and for the course material. Teacher constantly renews themselves as a professional to provide student with the high quality of education possible. Great teacher should not have any kind of fear of learning new teaching strategies for incorporating new technologies inside classroom.
5. **A great teacher is a skilled leader :** Different from administrative leaders, effective teachers focus on shared decision-making and teamwork, as well as on community building. This great teacher conveys the sense of leadership to students by providing opportunities for each of them to assume leadership roles
6. **A great teacher can "shift-gears":** A great teacher can "shift-gears" and is flexible when a lesson isn't working. This teacher assesses his teaching throughout the lessons and finds new ways to present material to make sure that every student understands the key concepts
7. **A great teacher collaborates with colleagues on an ongoing basis:** Rather than thinking of

himself/herself as weak because he/ she asks for suggestions or help, this teacher views collaboration as a way to learn from a fellow professional. A great teacher uses constructive criticism and advice as an opportunity to grow as an educator.

8. **A great teacher maintains professionalism in all areas:** From personal appearance to organizational skills and preparedness for each day. His/ Her communication skills are exemplary, whether she is speaking with an administrator, one of her students or a colleague. The respect great teacher receives because of his/ her professional manner is obvious to those around him/her.

- Definition 1.4**
1. The main character of teaching is to provide guidance and training.
 2. Teaching is interaction between teacher and students.
 3. Teaching is an art to give knowledge to students in effective way.
 4. Teaching is a science to educate fact and causes of different topics of different subjects.
 5. Teaching is continues process .
 6. Teacher can teach effectively, if he has full confidence on the subject.
 7. Teaching encourages students to learn more and more.
 8. Teaching is formal as well as informal
 9. Teaching is communication of information to students. In teaching , teacher imparts information in interesting way so that students can easily understand the information .
 10. Teaching is a tool to help student to adjust himself in society and its environment.

1.6 Method of teaching

Teaching is a very complex process which brings socially desirable behavioural change in a person. Teaching process takes place between teacher and learner. It is an interactive process which is initiated by the teacher where learner is the acceptor. In the process of teaching it is required to bring certain changes in a student according to the needs of the society where student is living. Teaching is dynamic in nature that's why it is called as a process. Teaching is both the science as well as art. In the process of teaching the main motive of the teacher is to develop the student mind. Effective teaching is mostly depend on the teacher. It is believed that a good teacher is born but not made. Training and research also can make a good teacher better and a better teacher best. Teacher must have the following qualities.

1. In-depth knowledge of the subject
2. Good knowledge of the pedagogical skills to teach the subject
3. Understand the learners preparedness with the knowledge

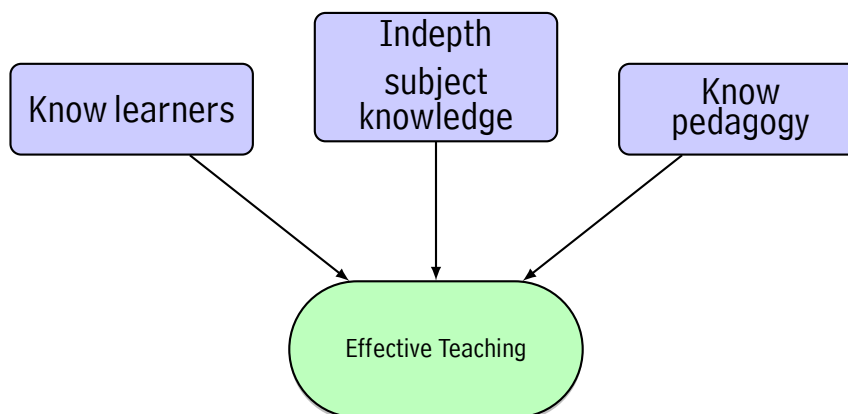


Figure 1.1: Teaching environment

Teacher should follow various methods of teaching devised from time to time. A teacher encourages the practice of thinking among students. Teacher should give to the students the freedom and opportunity to express their ideas.

The complete process of education must contain four common factors

1. Educator (teacher)
2. Educand (Student)
3. Subject matter
4. Context (setting).

1.6.1 Pedagogy paradigms

Pedagogy is the science and art of education. The aim of pedagogy is to develop the human beings up to the skill acquisition. The teaching is a professional artistry which requires a teacher to efficiently plan the objective and give the students meaningful knowledge in teaching-learning process. In the process of teaching, every teacher evolved themselves every day and they also develop their unique teaching style based on multiple encounters with their students. In teaching, every day teacher faced challenges and they loop for solution to those challenges. Pedagogical environment of teaching helps the teacher to understand the teaching-learning process and different teaching strategies. The job of teaching is a complex process which is executed in a sophisticated phases. More or less there are four phases.

1. planning
2. execution
3. assessment
4. reflection

The entire process starting from planning to reflection is totally depends on the teachers choice and beliefs in the learning paradigm on how students learn. A teacher is able to change their learning plan if they use some teaching model to organize and implement teaching strategies. There are various methods of teaching as suggested by stewards in education system.

1.6.2 Recent trends in pedagogy Paradigm's

To be a successful teacher, a teacher must have to follow a model of teaching. A model of teaching is basically a plan or scheme prepared by teacher to organize instructional material which helps to implement teaching method and to achieve the goal of the curriculum. According to G.E. Miller "teaching method which plays learners in active learning situation are more likely to be effective

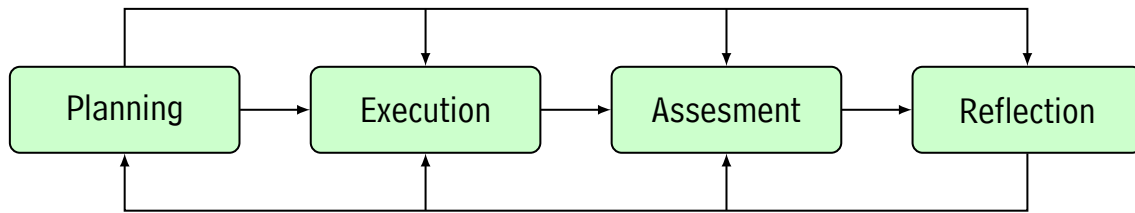


Figure 1.2: Executed sequence of phases

than those which do not". There are various teaching methods available in the literature. The below table shows the central idea of the teaching method as described by various theorists.

In recent development of higher education, it is strongly believe that the process of learning is different from school to universities because students develop the intellectual power for learning. In the higher education, students become more autonomous and resourcefull, as a result in the higher education, students becomes experience learner. In the higher education, students becomes an independent learner by developing their positive learning habit and ultimately they becomes masters in their own learning process. Education is basically the process of developing some capabilities into an individuals. Though it is a fact that abilities are always inborn quality, but it is also a fact that these abilities can be nurtured and developed in an learner through various means by an educator. Education must also be relieved and useful from source site's point of view in which the learner is living. The productivity of education can be classified as qualitative and quantitative.

Current trends in Pedagogy paradigm's

Learner	Teacher	Teaching	Learning
All learners are different and unique	teacher is not a giver of the knowledge	teaching is an active engagement between learner and teacher	learning is an active discourse on the part of learner
all learners can learn	teacher is a facilitator who helps the learner to construct knowledge	teaching is a creative endeavor that requires flexible organization, modification and adjustment throughout the teaching-learning process	learning is fully experimental
learners construct their own knowledge	teachers personal beliefs, attitude and experiences affect the choice and style of teaching method	teaching has to differentiate in terms of choice of content, instruction, study materials and assessment to meet the diverse learning needs of the student	learning can be strengthened and maximized through appropriate scaffolding and by providing sufficient challenge
learners personal background, priority experience, interlaced and motivation contribute significantly to voice their ability to learn	teacher has to be a learner himself/herself to grow as a teacher and evolve themselves	teaching is successful in a stress-free, emotionally secure learning environment	learning can be an enriching experience in a collaborative setting where all learners are part of a learning community who are working together to achieve a common goal.

For better and effective education system both the qualitative and quantitative productivity is required. Here quality means the excellence in textbook, teaching aids, facilities and teachers. The following are the basic components of an effective teaching environment.

1. knowledge of the teacher and love of subject teacher is teaching
2. teacher must have the knowledge and love with affection for the students
3. there must be planning, preparation and organisation of the teaching method
4. teacher must be enthusiastic for teaching
5. teacher must have ability to stimulate the learner thought and interest.

There are total 150 teaching methods available in the literature suggested by theorists. Teaching methods can be classified into three broad categories

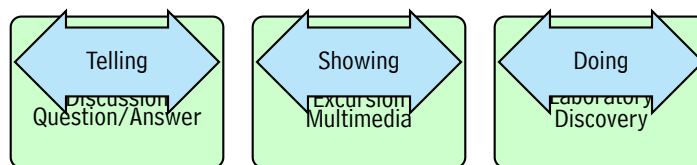


Figure 1.3: Methods of teaching

1.7 Traditional teaching method

In the ancient teaching method, the teacher was the sender or the source, the educational material was the information or message and students or learner was the receiver of that information. The educator deliver the message by using the chalk- and- talk method or by using overhead projector. Basically, the teacher controls the total instructional process, the content is delivered to the entire classroom at the teacher tends to emphasise factual knowledge. In this process, the teacher delivers the lecture content and the learner listened to the lecture. The main drawback in this method is the method is totally passive and the learners play a little role in the teaching-learning process. Some limitation which may prevail in traditional teaching methods are as follows.

1. Teaching in classroom using chalk and talk is “one way flow” of information.
2. Teachers often continuously talk for an hour without knowing students response and feedback.
3. The material presented is only based on lecturer notes and textbooks.
4. Teaching and learning are concentrated on “plug and play” method rather than practical aspects.
5. The handwriting of the lecturer decides the fate of the subject.
6. There is insufficient interaction with students in classroom.
7. More emphasis has been given on theory without any practical and real life time situations.
8. Learning through memorization but not understanding.
9. Marks oriented rather than result oriented.

1.8 Modern teaching method

Modern day choice of teaching method or methods to be used depends largely on the information or skill that is being taught, and it may also be influenced by the aptitude and enthusiasm of the students.

1.8.1 Lecture method

Lecture method is the most ancient method as prescribed by the theorists. Lecture method is still nowadays frequently used by teachers where a little or no participation from the learner side. A Lecture method will be effective if the teacher is experience and he is the master of the subject, explain all the points and can answer all the question raised by student. In this method student can ask questions anytime if they need any clarification. Efficiency of Lecture method totally depends on quantity of information, style of presenting information, clarity of information, active listening skills on the part of learners and supplementary material to provide a road map for the Lecture.

1.8.1.1 Advantage of lecture method

In the teaching-learning process following points are advantages of lecture method.

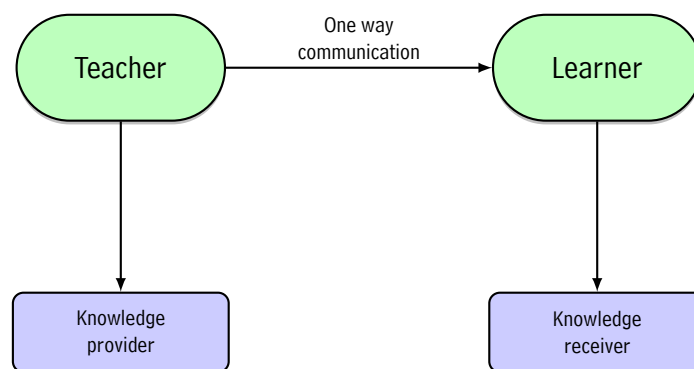


Figure 1.4: Teaching environment in lecture method

1. lecture method always good for large classroom and it also raise new ideas.
2. in lecture method students can ask questions anytime if they need any clarification about some particular topic.
3. in lecture method, a good teacher always explain all the points
4. teacher discusses old topic and complete the curriculum on time.
5. students can give their opinion at the end of each lecture
6. teacher can control and maintain the direct flow of the information with great interest.
7. it also stimulates the students interests by giving advanced knowledge of the topics
8. lecture method is useful because in this method a large amount of information can be provided to learner in a very short period of time.

1.8.1.2 Disadvantage of lecture method

Lecture methods of teaching is not fully armed with advantages. It has also some drawbacks

1. lecture method is totally undemocratic. In democratic country every person have some opinion to give by means of voting system. In the lecture method, if the teacher is rude, students don't feel safe to ask questions for clarification.
2. sometimes the learner becomes a silent receiver of information provided by teacher
3. lecture sometimes can be boring and unproductive if it is not organised properly.

1.8.1.3 Strategy to make lecture method more interesting

A teacher can make his lecture method interesting to the learners in different ways. Following are the different ways to make lecture method more interesting.

1. Give a road map or flowchart by using pointers and also indicates each and every point scale learners follow.
2. all the sequence of information must be rationally sound and logical from learners point of view
3. in any lecture method there must not be any communication gap between teacher and learner. So the language of the lecture should be clear and sharp.
4. for each and every topic there must be suitable example from real world problem.
5. lectures would start from brainstorming session on the topic which learners have already learned

1.8.2 Demonstration method

Demonstration teaching method is the best because in this method teacher shows the proof or explain the idea by using some example or experiment. This strategy is useful in technical or training Institute where practical knowledge is required. It is used to develop skill in the student and teacher. This method is very much useful for science and technology education. In this method of teaching students can visualise what is happening.

1.8.2.1 Advantage of demonstration method

Demonstration method of teaching has several advantages as shown below

- Because demonstration method shows the example or experiment. It is easy for student to visualise the sequence of process that may be hidden in the theoretical description.
- This method is the best to prove theorem accurately.
- Student can easily learn and understand the subject
- This method makes interest in the learners and motivate them for their active participation.
- This method makes teaching-learning process Interactive one

1.8.2.2 Disadvantage of demonstration method

Following are disadvantages of demonstration method

- This method can be used only for skills subject
- This method is totally teacher centric and mostly carried out in an laboratory
- This method is highly controllable
- To be a successful. This method requires accuracy and concentration to get the correct result

1.8.2.3 Strategies to make demonstration method more effective

- In this method, teachers would be a sincere, diligent and skilled person
- Teacher must come with the preparation of model
- Demonstration must be followed by healthy discussion
- Demonstrations would be repeated several times

1.8.3 Discussion method

Discussion is useful between a group of students or between a group of students and teacher. In teaching method, discussions involved stricter discipline and focus explanation of ideas, beliefs and understanding among a group of students on a chosen topic. Discussion Method emphasises pupil-activity in the form of discussion, rather than simply telling and lecturing by the teacher. Thus, this method is more effective.

1.8.3.1 Advantage of discussion method

- Everybody can participate in the discussion
- Democratic way of thinking is developed in the participant
- Students in the course of discussion get training in reflexive thinking
- Student can sell express themselves
- Students learn to discuss and differ with other members of the group. They learn to tolerate the views of others even if they are unpleasant and contradictory to each other's views. Thus, respect for the view points of others is developed.
- Learning is made Interesting

1.8.3.2 Limitation of discussion method

- All types of topics cannot be taught by Discussion Method.
- This method cannot be used for teaching small children.
- The students may not follow the rules of discussion.
- Some students may not take part while others may try to dominate.
- The teacher may not be able to guide and provide true leadership in the discussion.

In spite of these limitations, discussion method is a very useful and effective method for the teaching of History.

1.8.3.3 Strategies to make discussion method more interesting

- Topic of discussion must be selected from students interest point of view
- Student must come with the preparation for discussion.
- The teacher should act as an active moderator to allow discussion

1.8.4 Programmed instruction method

It is one of the improvised method of teaching invented by B.F Skinner. In this method, the responses of the students are fully controlled by the programmer or teacher. The main aspect of this type of teaching is to change the cognitive domain of the students behavior. In this method, the students don't have any freedom to respond. There are many computer assisted program available in different subject

Program instruction type teaching is of three types

1. **Linear programming :** this is used to teach all the subjects. It is based on five fundamental principle.

a. small steps	c. immediate confir-	d. self pace
b. actively respond	mation	e. student testing
2. **Branched programming :** this method of teaching is used in mechanical field
3. **Mathematics:** in this method chain of elements is presented. First step is the master level, while the last step is the simplest element

1.8.4.1 Advantages of program instruction

Following are the advantages of program instruction teaching strategy

1. The main emphasis is on students involvement in the process
2. There is no fixed time interval for learning. Students can learn anytime
3. Students are exposed only for the correct responses.
4. Immediate confirmation of the result is provided to the student and also feedback to the wrong answer is provided.
5. This is totally technology based

1.8.5 Disadvantages of program instruction

1. It is very difficult to develop an instructional program
2. Only cognitive objectives can be achieved
3. This process is highly mechanical
4. There is no scope to invent or explore
5. Sometimes it may be very expensive

1.8.5.1 Strategies to make program instruction method interesting

1. Programmer must have good knowledge of the content
2. This method must be used as a quiz after the class
3. It should be used in distance education learning
4. If it is applied in a classroom, teacher must be present in the class

1.8.6 Heuristic method

Heuristic method is based on the trial and error theory of psychological principle. One of the pre-requisite for this method is logical and imaginative thinking. This method is economical and very faster. In this method, teacher gives the learner questions and asks them to find out the solution by using various techniques like library, laboratory. This teaching strategy is totally focused on.

1. To develop problem-solving attitude of the student
2. To develop scientific attitudes towards the problem
3. To develop power of self-expression of students

1.8.6.1 Advantages of heuristic teaching method

Following are the advantages of heuristic teaching strategy

1. It helps in all round development of the learner
2. Students learn by self-expression means it develop self-confidence and self reliance in the students
3. It develop creativity and scientific attitude of the learners
4. Teacher always encouraged the students such that some new knowledge is discovered by the student

1.8.6.2 Disadvantages of heuristic method

1. This method cannot be used at primary education level
2. Students need higher intelligence to capture this method
3. Very few teachers have a sense to guard their students

1.8.6.3 Strategies to make heuristic method more interesting

1. One problem can have solution by using different method. So, it is totally teacher's responsibility to guide the students and to select most relevant solutions of the problem
2. The problem given to the students must be related to the course and curriculum
3. There must be an eligibility criteria for distributing the problems to the student

In countries like India, Bangladesh, Nepal and Pakistan. The whole teaching examination method is totally examination oriented. Teachers don't have a sense to apply this teaching strategy and get the desired result

1.9 Teaching aid

A teaching aid is a tool used by teachers, facilitators, or tutors to help learners improve reading and other skills, illustrate or reinforce a skill, fact, or idea, and relieve anxiety, fear, or boredom. A teaching aid can be linguistic, visual, auditory or both. Teaching aid can be presented by using following rules:

1. Stimulation, role-play, drama, film, documentary
2. Blackboard notes, PowerPoint presentation, web site resources.

The use of teaching aid in the learning process makes the teacher more resourceful, knowledgeable and versatile in his/her own style of teaching. Teaching aid can be used

1. To reinforce learning process
2. To strengthen the learning process
3. To highlight the important points in teaching-learning process
4. To enable students to visualise something which cannot be possible through regular teaching method

Definition 1.5 There are lots of teaching aids available in modern teaching Society. All the teaching aids can be categorised into two broad stream

1. Visual teaching aid
2. Interactive teaching aid

1.9.1 Visual teaching aids

Visual teaching aids are basically used to provide visual representation of subject matter to the learners in the form of pictures, graph, tables and photo clip. Visual teaching aids make teaching-learning process stimulating to the learners. These types of teaching aids are economic well and can be easily used by the teachers nowadays in modern societies needs.

1.9.2 Interactive teaching aids

Interactive teaching aids provide the learner visual images or audio clips or both to respond to the queries. In today's computer world, interactive teaching aids becomes more useful. Use of computerized interactive teaching aids has revolutionized teaching-learning process.

Types of teaching aids with examples

Visual teaching aids	Interactive teaching aids
Blackboard	interactive whiteboard
Charts	interactive projector
Posters	computer software
Newspapers	video conferencing
Flash card	interactive web resources
Board magazines	Digital presentations
Projector	
PowerPoint presentation	
Television/video/radio	

1.10 Teaching-learning Objectives

Objectives are statement which describe the learning outcomes expected to be achieved as a result of the teaching-learning process. In other words, objective can be defined in terms of change in the learners behaviour according to the need of the society where learner is living. We will use some of the terms interchangeably used for objective of teaching-learning process are:

1. Instructional objectives
2. Learning objectives
3. Desirable outcomes
4. Terminal objectives
5. Educational objectives
6. Competencies and aims

It is the teacher's duty to plan and write objective of teaching-learning process to make the teaching more organized and directed. To make the learning objectives, teacher must take into account what the learner will achieve as a result of engaging in learning activity. The objectivity of teaching-learning process must contain a behaviour, content, condition and criteria so that teachers can drive, in detail what is learned and how well student can learn it.

1.10.1 Purpose of objective

The objective in teaching-learning process has some defined purpose. Following are the few purpose of teaching-learning objectives.

1. Organization of the subject matter
2. Selection of effective instructional objectives
3. Selection of it is the teaching-learning materials
4. Planning the effective evaluation criteria
5. Consistent with curriculum goals
6. Made the appropriate teaching learning process to the levels of the learners
7. At last the objective must be goal directed

1.11 How to write a lesson plan

A lesson plan is a detail layout of the curriculum a teacher teaches in a given duration of time. A lesson plan makes teachers life easy by organizing the entire teaching-learning process to make the objectivity of teaching-learning process successful. Lesson plan determines the vision, aim of the teaching activity to be carried out by the teacher. A lesson plan is a careful detail plan of instructions about how teacher will teach the subject. An effective lesson plan includes the following steps to be performed.

1.11.1 preplanning

Preplanning means plan before teaching-learning process starts. Preplanning includes the following steps

1. Carefully scrutinize the subject matter to be taught by the teacher
2. Make a list of the important topics that teachers will teach
3. Make the topics in a sequence manner such that students feels comfortable in the whole teaching-learning process
4. Make a list of all the teaching aids that will be used in teaching-learning process
5. Clearly list all the resources and references that used in whole curriculum

1.11.2 Lesson opening

Before start the teaching, a teacher must have to start lesson opening process. Following rules are typically used.

1. Review all the materials that have been learned by learners
2. Introduced the lesson by connecting with the previous knowledge of the learners

3. State the objective of the topics such that students must know why they are learning the topics

1.11.3 Lesson layout

Lesson layout contains the following steps:

1. Provide details, step-by-step description of everything to be done
2. Detail description of the teaching strategies to be given to the learners such that they can come with the preparation
3. Plan different imaging approaches to meet the individual needs of learners. For example, one teaching method may be suitable for some students while others are not. So, a teacher must be aware of diverse teaching approaches.

1.11.4 Extended practice

To create a good lesson plan, it needs to follow the different steps that is called extended practice. Extended practice needs to follow the below steps

1. to strengthen the learning procedure, teacher needs to plan the different learning opportunities
2. Teacher must make sure that student can effectively grab the lesson inside the classroom
3. It must give real-life context for wider application of the lesson learned

1.11.5 Closure of lesson

At the end of the day, teacher must have to review the following thing

1. Remove the key points of the lesson
2. Give learner pace to draw conclusions from the lesson
3. There must be some feature learning opportunities in lesson plan

1.12 Evaluation system

In any education system evaluation is a critical part. Evaluation basically means the judgment about the student by the teacher, but these judgment is really, really tough. Evaluation is an interwoven activity in the process of teaching and learning. Nowadays evaluation by using the multiple-choice questions type is better than the broad question.

1.12.1 Principles of evaluation

Student evaluation in the teaching-learning processes must be well planned, goal oriented and continuous. One piece of paper cannot evaluate a students ability . So it is better that evaluation must be done inside the classroom throughout the semester. Following are some rules regarding evaluation.

- The process of evaluation should be informed properly to all the student
- Evaluation must be continuous process.
- Evaluation should be sensitive to learners and must not be biased .
- At the end of the day evaluation must be reliable judgment to student

1.12.2 Difference between evaluation and assessment

In teaching-learning process. The terms evaluation and assessment are used interchangeably, but there is some inherent difference between these two terms.

Assessment

Assessment is a preliminary phase in the evaluation process. A student can be assessed by using the multiple sources like class test, assignment, presentations, quiz, brainstorming session.

Evaluation

Evaluation is the action in the entire process that allows teachers to make a judgment based on assessment records with reference to learning objectives. Assessment without evaluation has no purpose. Following are the different evaluation techniques.

1. Written test
2. Classroom activities
3. Assignment
4. Project tasks
5. Laboratory activities
6. Social activities

Normally, there are four types of evaluation

1. Criteria referenced evaluation:
2. Formative evaluation
3. Norm referenced evaluation
4. Summative evaluation

1.12.3 Evaluation and test

Test is the most widely used technique for evaluation in the education system and other recruitment system. The questions come in test from some predefined syllabus and students have to give the answer to those questions in a predefined timeframe. There are mainly two kinds of test

1. Teacher made test
2. Standard test

Teacher made test is totally organized by teacher and questions are also set by teacher. Whereas standard test is for very large group where questions are prepared by some central committee.

1.13 Solved exercises

The following questions have been designed to test the objectives identified for this chapter.

Solved Exercise

1. Which of the following comprise teaching skill? (June-2006)
 - (A) Black Board writing
 - (B) Questioning
 - (C) Explaining
 - (D) All the above
2. Which of the following statements is most appropriate? (June-2006)
 - (A) Teachers can teach.
 - (B) Teachers help can create in a student a desire to learn.
 - (C) Lecture Method can be used for developing thinking.
 - (D) Teachers are born.
3. The least justifiable use of the results of a standardized reading test is to
 - (A) identify areas of pupil deficiency
 - (B) evaluate the reading instruction programme.
 - (C) Serve as a basis for report card marks
 - (D) Serve as the basis for a parent conference
4. A good teacher's priority in his school shall be his
 - (A) Principal
 - (B) Secretary of the Managing Committee
 - (C) Colleagues
 - (D) Students
5. School is a social agency which
 - (A) Contributes to the raising of the society to a higher standard
 - (B) Conserves and transmits people
 - (C) Has certain biological endowments
 - (D) Isolates the good from bad
6. An empowering school will promote which of the following qualities the most in its teachers?
 - (A) tendency to experiment
 - (B) memory
 - (C) disciplined nature
 - (D) competitive aptitude
7. A teacher should be
 - (A) Honest
 - (B) Diligent
 - (C) Dutiful
 - (D) Punctual
8. The first Indian chronicler of Indian history was: (June-2006)
 - (A) Megasthenese
 - (B) Fahiyani
 - (C) Huan Tsang
 - (D) Kalhan
9. Which of the following statements is correct? (June-2006)
 - (A) Syllabus is a part of curriculum.
 - (B) Syllabus is an annexure to curriculum.
 - (C) Curriculum is the same in all educational institutions affiliated to a particular university.
 - (D) Syllabus is not the same in all educational institutions affiliated to a particular university.

- 10.** The most important objective of teaching is to
- (A) facilitate students when it comes to the construction of knowledge and understanding
 - (B) cover the Syllabus timely
 - (C) create a friendly environment inside the classroom or teaching-learning process
 - (D) attend and takes the classes regularly and timely
- 11.** Environmental education should be taught in schools because
- (A) it will affect environmental pollution
 - (B) it is important part of life
 - (C) it will provide job to teachers
 - (D) we cannot escape from environment
- 12.** The most important challenge before a teacher is
- (A) To maintain discipline in the classroom
 - (B) To make students do their home work
 - (C) To prepare question paper
 - (D) To make teaching-learning process enjoyable
- 13.** The idea that Basic Education is education through crafts
- (A) True as far as the rural areas are concerned
 - (B) The whole truth of the schemes
 - (C) The complete truth even for urban areas
 - (D) True to some extent only because the concept is deeper
- 14.** The term prejudice in a person is colored by
- (A) A hasty judgment about a situation with an unfavorable
 - (B) Judgment and assessment of a situation without any favoritism
 - (C) Partial observation and acquaintance of a situation without any motives
 - (D) Pre-judgment of a situation with a view to settle a conflict in haste
- 15.** Which of the two given options is of the level of understanding? I) Define noun. II) Define noun in your own words. (June-2006)
- (A) Only I
 - (B) Only II
 - (C) Both I and II
 - (D) Neither I nor II
- 16.** Which of the following is not instructional material ? (December-2006)
- (A) Over Head Projector
 - (B) Audio Casset
 - (C) Printed Material
 - (D) Transparency
- 17.** Which of the following statement is not correct ? (December-2006)
- (A) Lecture Method can develop reasoning
 - (B) Lecture Method can develop knowledge
 - (C) Lecture Method is one way process
 - (D) During Lecture Method students are passive
- 18.** Most important work of teacher is
- (A) to organize teaching work
 - (B) to deliver lecture in class
 - (C) to take care of children
 - (D) to evaluate the students
- 19.** Gifted students are
- (A) non-assertive of their needs
 - (B) independent in their judgments
 - (C) independent of teachers
 - (D) introvert in nature

- 20.** Of the following learning theories, the one that embodies the idea that the learning takes place through insight is known as
- (A) Gestalt
 - (B) Stimulus-Response
 - (C) Connectionist
 - (D) Pragmatic
- 21.** The main objective of teaching at Higher Education Level is : (December-2006)
- (A) To prepare students to pass examination
 - (B) To develop the capacity to take decisions
 - (C) To give new information
 - (D) To motivate students to ask questions during lecture
- 22.** Which of the following statement is correct? (December-2006)
- (A) Reliability ensures validity
 - (B) Validity ensures reliability
 - (C) Reliability and validity are independent of each other
 - (D) Reliability does not depend on objectivity
- 23.** Which of the following indicates evaluation? (December-2006)
- (A) Ram got 45 marks out of 200
 - (B) Mohan got 38 percent marks in English
 - (C) Shyam got First Division in final examination
 - (D) All the above
- 24.** Which of the following is not a type of the learned motives?
- (A) Reflexes
 - (B) Habits
 - (C) Attitude
 - (D) Interest
- 25.** Assessment for learning takes into account the following except
- (A) mistake of students
 - (B) learning styles of students
 - (C) strengths of students
 - (D) needs of students
- 26.** Which one of the following is an example of a fine motor skill?
- (A) climbing
 - (B) hopping
 - (C) running
 - (D) writing
- 27.** Which would be the best theme to start with in a nursery class?
- (A) My best friend
 - (B) My neighborhood
 - (C) My school
 - (D) My family
- 28.** Teacher uses visual-aids to make learning: (June-2007)
- (A) Simple
 - (B) More knowledgeable
 - (C) Quicker
 - (D) Interesting
- 29.** The teacher's role at the higher educational level is to: (June-2007)
- (A) Provide information to students
 - (B) Promote self-learning in students
 - (C) Encourage healthy competition among students
 - (D) Help students to solve their personal problems
- 30.** Which one of the following teachers would you like the most: (June-2007)
- (A) Punctual
 - (B) Having research aptitude
 - (C) Loving and having high idealistic philosophy
 - (D) Who often amuses his students

- 31.** In order to install a positive environment in a primary class a teacher should
- (A) wish each child in the morning
 - (B) narrate stories with positive endings
 - (C) allow them to make groups on their own on the basis of Sociometry during group activities.
 - (D) not discriminate and set the same goal for every child.
- 32.** Successful inclusion requires the following except
- (A) involvement of parents
 - (B) capacity building
 - (C) sensitization
 - (D) segregation
- 33.** The teachers and students in a school belong to a system
- (A) Supra-system
 - (B) Subsystem
 - (C) Interface system
 - (D) Closed system
- 34.** IQ scores are generally correlated with academic performance.
- (A) least
 - (B) perfectly
 - (C) highly
 - (D) moderately
- 35.** Micro teaching is most effective for the student-teacher: (June-2007)
- (A) During the practice-teaching
 - (B) After the practice-teaching
 - (C) Before the practice-teaching
 - (D) None of the above
- 36.** Education is a powerful instrument of: (June-2008)
- (A) Social transformation
 - (B) Personal transformation
 - (C) Cultural transformation
 - (D) All the above
- 37.** A teacher's major contribution towards the maximum self-realization of the student is affected through: (June-2008)
- (A) Constant fulfilment of the students' needs
 - (B) Strict control of class-room activities
 - (C) Sensitivity to students' needs, goals and purposes
 - (D) Strict reinforcement of academic standards
- 38.** The trial and error method of learning according to Thorndike could be classified as under
- (A) The principle of multiple responses
 - (B) The law of exercise
 - (C) The principle of partial activity
 - (D) The principle of Associative learning
- 39.** Liberalism in education, when it was claimed by universities of the world since the 19th century, meant
- (A) Freedom to be given to education from the clutches of religion
 - (B) Favoring liberal education as opposed to special education
 - (C) Academic freedom for teachers in instruction
 - (D) Administrative freedom to universities to run the institution
- 40.** The term 'Evaluation' and 'Assessment' could be discriminated as follows
- (A) Assessment is limited to coverage achievement whereas evaluation is qualitative in character
 - (B) Evaluation is concerned with the effective aspects of achievement whereas assessment judges the cognitive aspects
 - (C) Evaluation involves the measurement as well as diagnosis of students' attainments, whereas assessment is concerned with only scholastic attainments.
 - (D) Assessment is an attempt to measure the pupil as whole whereas evaluation is concerned with his achievement only

- 41.** Planning or arranging the student's environment in order to predict the consequences of a student's behavior is referred to as
- (A) Prompting
 - (B) Reinforcement
 - (C) Shaping
 - (D) Stimulus control
- 42.** Naturalism in education means
- (A) Introduction of physical sciences in education
 - (B) Giving more importance to mind than to matter
 - (C) Making discrimination between mind and consciousness
 - (D) Supporting both mind and consciousness equally
- 43.** Navodaya Schools have been established to
- (A) increase number of school in rural areas
 - (B) provide good education in rural areas
 - (C) complete "Sarva Shiksha Abhiyan"
 - (D) check wastage of education in rural areas
- 44.** For developing the language abilities of kindergartners, which of the following would be the most appropriate way to follow up the writing of a group essay?
- (A) Prepare a list of the most difficult words for the children to learn to spell.
 - (B) Show the children how to revise the sentences to make them longer and more complex structurally.
 - (C) Have the children print the essay for themselves, then practice writing it, using cursive letters.
 - (D) Read the essay aloud, in unison with the children, then leave it displayed where they can examine it
- 45.** Which is the least important factor in teaching? (June-2007)
- (A) Punishing the students
 - (B) Maintaining discipline in the class
 - (C) Lecturing in impressive way
 - (D) Drawing sketches and diagrams on the black-board
- 46.** Verbal guidance is least effective in the learning of: (December-2007)
- (A) Aptitudes
 - (B) Skills
 - (C) Attitudes
 - (D) Relationship
- 47.** Which is the most important aspect of the teacher's role in learning? (December-2007)
- (A) The development of insight into what constitutes an adequate performance
 - (B) The development of insight into what constitutes the pitfalls and dangers to be avoided
 - (C) The provision of encouragement and moral support
 - (D) The provision of continuous diagnostic and remedial help
- 48.** Theory of multiple intelligence implies the following except
- (A) intelligence is a distinct set of processing operations used by an individual to solve problems.
 - (B) disciplines should be presented in a number of ways
 - (C) learning could be accessed through a variety of means
 - (D) emotional intelligence is not related to IQ
- 49.** Smallest unit of meaning in a language is
- (A) syntax
 - (B) morpheme
 - (C) pragmatics
 - (D) phoneme

- 50.** A child cannot distinguish between 'saw' and 'was', 'nuclear' and 'unclear'. She/he is suffering from
- (A) dyslexia
 - (B) word jumbling disorder
 - (C) dyslexemia
 - (D) dysmorphemia
- 51.** Adolescents may experience
- (A) feeling of self-actualization
 - (B) feeling of satiation about life
 - (C) anxiety and concern about themselves
 - (D) feeling of fear about sins committed in childhood.
- 52.** The most appropriate purpose of learning is: (December-2007)
- (A) Personal adjustment
 - (B) Modification of behaviour
 - (C) Social and political awareness
 - (D) Preparing oneself for employment
- 53.** The students who keep on asking questions in the class should be: (December-2007)
- (A) Encouraged to find answer independently
 - (B) Advised to meet the teacher after the class
 - (C) Encouraged to continue questioning
 - (D) Advised not to disturb during the lecture
- 54.** Maximum participation of students is possible in teaching through: (December-2007)
- (A) Discussion method
 - (B) Lecture method
 - (C) Audio-visual aids
 - (D) Text book method
- 55.** The teacher has been glorified by the phrase "Friend, philosopher and guide" because: (June-2008)
- (A) He has to play all vital roles in the context of society
 - (B) He transmits the high value of humanity to students
 - (C) He is the great reformer of the society
 - (D) He is a great patriot
- 56.** The most important cause of failure for teacher lies in the area of: (June-2008)
- (A) Inter personal relationship
 - (B) Lack of command over the knowledge of the subject
 - (C) Verbal ability
 - (D) Strict handling of the students
- 57.** Which among the following gives more freedom to the learner to interact? (June-2009)
- (A) Use of film
 - (B) Small group discussion
 - (C) Lectures by experts
 - (D) Viewing country-wide classroom programme on TV
- 58.** Which theory of learning has found knowledge of internal processes crucial to the understanding of learning?
- (A) Cognitive theorists
 - (B) Stimulus - response theorists
 - (C) Operant conditioning theorists
 - (D) Classical conditioning theorists
- 59.** A teacher can make problem-solving fun for students by doing all the following except
- (A) providing open ended material
 - (B) giving time for free play
 - (C) providing endless opportunities for creative thinking
 - (D) expecting perfection from the students while they are trying to do things by themselves.

- 60.** It is said that a teacher in the classroom is a
- (A) Speaker
 - (B) Leader
 - (C) Friend
 - (D) Thinker
- 61.** Which of the following is not a product of learning? (June-2009)
- (A) Attitudes
 - (B) Concept
 - (C) Knowledge
 - (D) Maturation
- 62.** A teacher can establish rapport with his students by: (June-2008)
- (A) Becoming a figure of authority
 - (B) Impressing students with knowledge and skill
 - (C) Playing the role of a guide
 - (D) Becoming a friend to the students
- 63.** According to Swami Vivekananda, teacher's success depends on: (December-2008)
- (A) His renunciation of personal gain and service to others
 - (B) His professional training and creativity
 - (C) His concentration on his work and duties with a spirit of obedience to God
 - (D) His mastery on the subject and capacity in controlling the students
- 64.** A teacher's most important challenge is: (December-2008)
- (A) To make students do their home work
 - (B) To make teaching-learning process enjoyable
 - (C) To maintain discipline in the class room
 - (D) To prepare the question paper
- 65.** Value-education stands for: (December-2008)
- (A) Making a student healthy
 - (B) Making a student to get a job
 - (C) Inculcation of virtues
 - (D) All-round development of personality
- 66.** Some students are backward in studies. What will be your attitude towards them?
- (A) Harsh
 - (B) Sympathetic
 - (C) Liberal
 - (D) Lovable
- 67.** For harmonious development of the personality of the child, parent should
- (A) overprotect the child.
 - (B) regularly compare the child with other children.
 - (C) provide conducive environment at home.
 - (D) engage qualified teachers.
- 68.** Which of the following characteristics is most essential to make you a good teacher?
- (A) Sympathy for students.
 - (B) Proficiency of language.
 - (C) Thoroughness of knowledge.
 - (D) Effective communication.
- 69.** You have been selected in all the four professions given below. Where would you like to go ?
- (A) Teacher
 - (B) Police
 - (C) Army
 - (D) Bank
- 70.** When a normal student behaves in an erratic manner in the class, you would: (December-2008)
- (A) Pull up the student then and there
 - (B) Talk to the student after the class
 - (C) Ask the student to leave the class
 - (D) Ignore the student

- 71.** Good evaluation of written material should not be based on: (June-2009)
- (A) Linguistic expression
 - (B) Logical presentation
 - (C) Ability to reproduce whatever is read
 - (D) Comprehension of subject
- 72.** Why do teachers use teaching aid? (June-2009)
- (A) To make teaching fun-filled
 - (B) To teach within understanding level of students
 - (C) For students' attention
 - (D) To make students attentive
- 73.** Attitudes, concepts, skills and knowledge are products of: (June-2009)
- (A) Learning
 - (B) Research
 - (C) Heredity
 - (D) Explanation
- 74.** learners can learn more effectively by
- (A) listening the lecture
 - (B) noting the detailed written notes from the lecture
 - (C) actively participating in the lecture in interactive way
 - (D) all of the above
- 75.** Vygotsky theory implies
- (A) child will learn best in the company of children having IQ lesser than his/her own.
 - (B) collaborative problem solving
 - (C) individual assignments to each student
 - (D) after initial explanation, do not support a child in solving difficult questions
- 76.** Which of the following plays a broad role for guiding the selection of teaching method?
- (A) The focus of learning
 - (B) the strength of the entire class
 - (C) content of teaching
 - (D) all of the above
- 77.** Which of the following teacher, will be liked most? (December-2008)
- (A) A teacher of high idealistic attitude
 - (B) A loving teacher
 - (C) A teacher who is disciplined
 - (D) A teacher who often amuses his students
- 78.** The University which telecasts interaction educational programmes through its own channel is (December-2009)
- (A) Osmania University
 - (B) University of Pune
 - (C) Annamalai University
 - (D) Indira Gandhi National Open University (IGNOU)
- 79.** Which of the following skills are needed for present day teacher to adjust effectively with the classroom teaching? (December-2009)
1. Knowledge of technology.
 2. Use of technology in teaching learning.
 3. Knowledge of students' needs.
 4. Content mastery
- (A) 1 & 3
 - (B) 2 & 3
 - (C) 2, 3 & 4
 - (D) 2 & 4
- 80.** Who has signed an MOU for Accreditation of Teacher Education Institutions in India? (December-2009)
- (A) NAAC and UGC
 - (B) NCTE and NAAC
 - (C) UGC and NCTE
 - (D) NCTE and IGNOU

- 81.** Which combination of teaching methods listed below would encourage the learner-centered paradigm?
- (A) Individualized instruction and lecture method
 - (B) Simulation and demonstration
 - (C) Lecture method and experimentation
 - (D) Projects and Direct experiences
- 82.** At primary level, it is better to teach in mother language because
- (A) it develops self-confidence in children
 - (B) it makes learning easy
 - (C) it is helpful in intellectual development
 - (D) it helps children in learning in natural atmosphere
- 83.** Women are better teacher at primary level because
- (A) they behave more patiently with children
 - (B) they are ready to work with low salary
 - (C) higher qualification is not needed in this profession
 - (D) they have less chances in other profession
- 84.** inside the classroom, before explaining the importance of topic, it is too important to
- (A) maintain strict discipline in the class
 - (B) get the attention of the students
 - (C) ask the students few questions from the last lecture
 - (D) all of the above
- 85.** If we believe in the dualistic theory of the mind versus body nature of man, have to arrive at the consequence that
- (A) Education is mechanization in process and theoretical in development
 - (B) Learning is purely a matter of material changes in the behavior of man
 - (C) Learning an education should cater to observable behavior of man
 - (D) Education is purely a matter of mental training and development of the self.
- 86.** Swami Vivekananda was famous for speaking on
- (A) Vedas
 - (B) Medicians
 - (C) Gita
 - (D) Vedanta
- 87.** Article 45 under the Directive Principles of State policy in the Indian Constitution, provides for
- (A) Rights of minorities to establish educational institutions
 - (B) Free and compulsory primary education
 - (C) Education for weaker sections of the country
 - (D) Giving financial assistance to less advanced states
- 88.** Vivekananda was a
- (A) Religious guru
 - (B) Poet
 - (C) Philosopher
 - (D) All of the above
- 89.** you are planning to teach human anatomy in a medical college. Which one of the following is the most suitable teaching aid?
- (A) Put up a chart on human anatomy
 - (B) show the students model of the human body
 - (C) Read from the text and simultaneously explaining the topic
 - (D) show the presentation and videos depicting location and functions of parts of the human body

- 90.** Which of the following teacher behavior suggests a dimension of “unsuccessful” teacher behavior? A teacher who is
- (A) Stimulating and imaginative
 - (B) Business like and friendly
 - (C) Aloof and routine
 - (D) Understanding and sympathetic
- 91.** What is most important while writing on blackboard ?
- (A) Good writing
 - (B) Clarity in writing
 - (C) Writing in big letters
 - (D) Writing in small letters
- 92.** The industrial revolution that started in the West to begin with had the following effect on education
- (A) Shifting the emphasis from the lower class culture to the middle class culture
 - (B) Shifting the centre of gravity from the middle to the lower class culture
 - (C) Introduction of mass educational programmes
 - (D) Introduction of vocationalisation of education
- 93.** Any deterrents are negative in character
- (A) When they prevent children from doing wrong
 - (B) When they prevent doing wrong but do not reform children
 - (C) When they are administered owing to some misunderstanding
 - (D) When they are administered with a negative motive
- 94.** Which of the following kinds of instruction is frequently cited as the opposite of discovery learning?
- (A) Simulation games
 - (B) Expository teaching
 - (C) Mastery learning
 - (D) Schema training
- 95.** Industries near the towns cause
- (A) Pollution
 - (B) Finished material
 - (C) Security
 - (D) Employment
- 96.** ‘Gang age’ period refers to
- (A) Infancy
 - (B) Preadolescent
 - (C) Teen age
 - (D) Adult
- 97.** If you find a child in your class who always isolates from the rest of the class, you would ...
- (A) ask the child to be normal by taking example of his classmates
 - (B) try to understand the underlying cause
 - (C) leave the child alone so that the child comes out of his own
 - (D) inform the management that his presence may effect other students of the class.
- 98.** All of the following can be signs that a child is gifted, except
- (A) Interest in encyclopedia and dictionaries
 - (B) Uneasy relationships with peers.
 - (C) Early development of a sense of time
 - (D) Easy retention of facts
- 99.** With the frequent use of brain storming method the teacher develops
- (A) Creativity
 - (B) Intelligence
 - (C) Perception
 - (D) Memory
- 100.** In which stage is the Physical growth is rapid
- (A) Early childhood
 - (B) Infancy
 - (C) Adolescence
 - (D) School age

1.14 Previous year questions

1. Which of the following set of statements reflects the basic characteristics of teaching? [2016-AUGUST]

Select the correct alternative from the codes:

- i) Teaching is the same as training.
- ii) There is no difference between instruction and conditioning when we teach.
- iii) Teaching is related to learning.
- iv)) Teaching is a 'task' word while learning is an 'achievement' word.
- v) Teaching means giving information.
- vi) One may teach without learning taking place.

Codes :

- (A) (i), (ii) and (iii)
- (B) (iii), (iv) and (v)
- (C) (ii), (iii) and (v)
- (D) (i), (iv) and (vi)

2. Which of the following factors affect teaching? [2016-AUGUST]

Choose the correct code to indicate your answer.

- i) Teacher's internal locus of control.
- ii) Learner-motivation.
- iii) Teacher's biographical data.
- iv) Teacher's self efficacy.
- v) Learner's interest in co-curricular activities.
- vi) Teacher's skill in managing and monitoring.
- vii) Teacher's knowledge of the subject including general knowledge.

Codes :

- (A) (i), (ii), (iv), (vi) and (vii)
- (B) (i), (ii), (iii), (iv) and (v)
- (C) (iii), (iv), (v), (vi) and (vii)
- (D) (ii), (iii), (iv), (v) and (vi)

3. Which combination of methods of teaching is likely to optimise learning? [2016-AUGUST]

- (A) Lecturing, discussions and seminar method
- (B) Interactive discussions, planned lectures and PowerPoint based presentations
- (C) Interactive lecture sessions followed by buzz sessions, brainstorming and projects
- (D) Lecturing, demonstrations and PowerPoint based presentations

4. Assertion (A): Teaching aids have to be considered as effective supplements to instruction. [2016-AUGUST]

Reason (R): They keep the students in good humour.

Choose the correct answer from the codes given below :

Codes :

- (A) Both (A) and (R) are true and (R) is the correct explanation of (A).
- (B) Both (A) and (R) are true, but (R) is not the correct explanation of (A).
- (C) (A) is true, but (R) is false.
- (D) (A) is false, but (R) is true.

5. The purpose of formative evaluation is to [2016-AUGUST]

- (A) grade students' learning outcomes.
- (B) accelerate students' learning performance.
- (C) check students' performance graph.
- (D) provide feedback to teacher effectiveness.

6. Which of the following learner characteristics are likely to influence the effectiveness of teaching aids and evaluation systems to ensure positive results? [2016-AUGUST]

- (A) Learner's family background, age and habitation.
- (B) Learner's parentage, socio-economic background and performance in learning of the concerned subject.
- (C) Learner's stage of development, social background and personal interests.
- (D) Learner's maturity level, academic performance level and motivational dispositions.
- 7.** Internal and external factors that affect message reception by the students in the classroom are referred to as [2016-AUGUST]
- (A) feedback
- (B) fragmentation
- (C) channelization
- (D) noise
- 8.** A teacher in a classroom has immediate control over [2016-AUGUST]
- (A) the self, selected methods of communication and the message.
- (B) the audience, the noise and the reception.
- (C) the feedback, the technology and the audience experience.
- (D) the communication channel, other communicators, and external factors.
- 9.** As a good classroom communicator, you are supposed to know your [2016-AUGUST]
- (A) audience emotions
- (B) silent cues
- (C) artful pauses
- (D) counter arguments
- 10.** The best way for providing value education is through [2016-JULY]
- (A) discussions on scriptural texts
- (B) lecture/discourses on values
- (C) seminars/symposia on values
- (D) mentoring/reflective sessions on values
- 11.** Which set of learner characteristics may be considered helpful in designing effective teaching-learning systems? Select the correct alternative from the codes given below: [2016-JULY]
- i) Prior experience of learners in respect of the subject.
- ii) Interpersonal relationships of learner's family friends.
- iii) Ability of the learners in respect of the subject.
- iv) Student's language background.
- v) Interest of students in following the prescribed dress code.
- vi) Motivational-orientation of the students.
- Codes:
- (A) (i), (ii), (iii) and (iv)
- (B) (i), (iii), (iv) and (vi)
- (C) (ii), (iii), (iv) and (v)
- (D) (iii), (iv), (v) and (vi)
- 12.** A college level assistant professor has planned his/her lectures with an intent to develop cognitive dimensions of students centered on skills of analysis and synthesis. Below, given are two sets of items Set - I consisting of levels of cognitive interchange and Set - II comprising basic requirements for promoting them. Match the two sets and indicate your answer by choosing the correct alternative from the code: [2016-JULY]

Set - I	Set - II
(Levels of Cognitive Interchange)	(Basic requirements for promoting cognitive interchange)
a. Memory level .	i. Giving opportunity for discriminating examples and non-examples of a point
b. Understanding level .	ii. Recording the important points made during the presentations
c. Reflective level	iii. Asking the students to discuss various items of information.
	iv. Critically analyzing the points to be made and discussed.

Codes:

- (A) a- ii,b- iv,c- i
 (B) a- iii,b- iv,c- ii
 (C) a- ii,b- i,c- iv
 (D) a- i,b- ii,c- iii

- 13.** Match the items of the first set with that of the second set in respect of evaluation system. Choose the correct code: [2016-JULY]

Set - I	Set - II
a. Formative evaluation with regularity	i. Evaluating cognitive and co-cognitive aspects
b. Summative evaluation	ii. Tests and their interpretations based on a group and certain yardsticks
c. Continuous and comprehensive evaluation	iii. Grading the final learning outcomes
d. Norm and criterion referenced tests	iv. Quizzes and discussions

Codes:

- (A) a- iv,b- iii,c- i,d- ii
 (B) a- i,b- ii,c- iii,d- iv
 (C) a- iii,b- iv,c- ii,d- i
 (D) a- i,b- iii,c- iv ,d- ii

- 14.** Select the alternative which consists of positive factors contributing to effectiveness of teaching: [2016-JULY]

List of factors:

- a) Teacher's knowledge of the subject.
 b) Teacher's socio-economic background.
 c) Communication skill of the teacher.
 d) Teacher's ability to please the students.
 e) Teacher's personal contact with students.
 f) Teacher's competence in managing and monitoring the classroom transactions.

Codes:

- (A) (b), (c) and (d)
 (B) (c), (d) and (f)
 (C) (b), (d) and (e)
 (D) (a), (c) and (f)

- 15.** The use of teaching aids is justified on the grounds of [2016-JULY]
(A) Attracting student's attention in the class room.
(B) Minimizing indiscipline problems in the classroom.
(C) Optimizing learning outcomes of students.
(D) Effective engagement of students in learning tasks.
- 16.** Assertion (A): The purpose of higher education is to promote critical and creative thinking abilities among students. [2016-JULY]
Reason (R): These abilities ensure job placements.
Choose the correct answer from the following code:
(A) Both (A) and (R) are true and (R) is the correct explanation of (A).
(B) Both (A) and (R) are true but (R) is not the correct explanation of (A).
(C) (A) is true and (R) is false.
(D) (A) is false and (R) is true.
- 17.** As a teacher, select the best option to ensure your effective presence in the classroom. [2016-JULY]
(A) Use of peer command
(B) Making aggressive statements
(C) Adoption of well-established posture
(D) Being authoritarian
- 18.** Imagine you are working in an educational institution where people are of equal status. Which method of communication is best suited and normally employed in such a context? [2016-JULY]
(A) Horizontal communication
(B) Vertical communication
(C) Corporate communication
(D) Cross communication
- 19.** Identify the important element a teacher has to take cognizance of while addressing students in a classroom. [2016-JULY]
(A) Avoidance of proximity
(B) Voice modulation
(C) Repetitive pause
(D) Fixed posture
- 20.** Greater the handicap of the students coming to the educational institutions, greater the demand on the: [2015-DECEMBER]
(A) Family
(B) Society
(C) Teacher
(D) State
- 21.** What are the characteristics of Continuous and Comprehensive Evaluation? [2015-DECEMBER]
a) It increases the workload on students by taking multiple tests.
b) It replaces marks with grades.
c) It evaluates every aspect of the student.
d) It helps in reducing examination phobia.
Select the correct answer from the codes given below:
(A) (a), (b), (c) and (d)
(B) (b) and (d)
(C) (a), (b) and (c)
(D) (b), (c) and (d)
- 22.** Which of the following attributes denote great strengths of a teacher? [2015-DECEMBER]
a) Full-time active involvement in the institutional management
b) Setting examples
c) Willingness to put assumptions to the test
d) Acknowledging mistakes

Select the correct answer from the codes given below:

- (A) (a), (b) and (d)
- (B) (b), (c) and (d)
- (C) (a), (c) and (d)
- (D) (a), (b), (c) and (d)

23. Which one of the following statements is correct in the context of multiple - choice type questions? [2015-DECEMBER]

- (A) They are more objective than true-false type questions.
- (B) They are less objective than essay type questions.
- (C) They are more subjective than short-answer type questions.
- (D) They are more subjective than true-false type questions.

24. As Chairman of an independent commission on education, Jacques Delors report to UNESCO was titled [2015-DECEMBER]

- (A) International Commission on Education Report
- (B) Millennium Development Report
- (C) Learning : The Treasure Within
- (D) World Declaration on Education for All

25. What are required for good teaching? [2015-DECEMBER]

- a) Diagnosis
- b) Remedy
- c) Direction
- d) Feedback

Select the correct answer from the codes given below:

- (A) (a), (b), (c) and (d)
- (B) (a) and (b)
- (C) (b), (c) and (d)
- (D) (c) and (d)

26. The main objectives of student evaluation of teachers are: [2015-DECEMBER]

- a) To gather information about student weaknesses.
- b) To make teachers take teaching seriously.
- c) To help teachers adopt innovative methods of teaching.
- d) To identify the areas of further improvement in teacher traits.

Identify the correct answer from the codes given below:

- (A) (a) and (b) only
- (B) (b), (c) and (d) only
- (C) (a), (b) and (c) only
- (D) (a) only

27. Using the central point of the classroom communication as the beginning of a dynamic pattern of ideas is referred to as: [2015-DECEMBER]

- (A) Systemisation
- (B) Problem - orientation
- (C) Idea protocol
- (D) Mind mapping

28. Attitudes, actions and appearances in the context of classroom communication are considered as: [2015-DECEMBER]

- (A) Verbal
- (B) Non-verbal
- (C) Impersonal
- (D) Irrational

29. Most often, the teacher - student communication is: [2015-DECEMBER]

- (A) Spurious
- (B) Critical
- (C) Utilitarian
- (D) Confrontational

30. In a classroom, a communicator's trust level is determined by: [2015-DECEMBER]

- (A) the use of hyperbole
- (B) the change of voice level

- (C) the use of abstract concepts
(D) eye contact
- 31.** Which of the following is the highest level of cognitive ability [2015-JUNE]
(A) Knowing
(B) Understanding
(C) Analysing
(D) Evaluating
- 32.** Which of the following factors does not impact teaching
(A) Class room activities that encourage learning
(B) Socio-economic background of teachers and students
(C) Learning through experience
(D) Teacher's knowledge
- 33.** Which of the following statements about teaching aids are correct [2015-JUNE]
a) They help in retaining concepts for longer duration
b) They help students learn better
c) They make teaching learning process interesting
d) They enhance rote learning
(A) (a), (b), (c) and (d)
(B) (a), (b) and (c)
(C) (b), (c) and (d)
(D) (a), (b) and (d)
- 34.** Techniques used by a teacher to teach include [2015-JUNE]
a) Lecture
b) Interactive lecture
c) Group work
d) Self study
(A) (a), (b) and (c)
(B) (a), (b), (c) and (d)
(C) (b), (c) and (d)
(D) (a), (b) and (d)
- 35.** Achievement tests are commonly used for the purpose of [2015-JUNE]
(A) Making selections for a specific job
(B) Selecting candidates for a course
(C) Identifying strengths and weaknesses of learners
(D) Assessing the amount of learning after teaching
- 36.** A good teacher is one who [2015-JUNE]
(A) gives useful information
(B) explains concepts and principles
(C) gives printed notes to students
(D) inspires students to learn
- 37.** Maximum participation of students during teaching is possible through [2015-DECEMBER]
(A) Lecture method
(B) Demonstration method
(C) Inductive method
(D) Textbook method
- 38.** Diagnostic evaluation ascertains [2015-DECEMBER]
(A) Students performance at the beginning of instructions.
(B) Learning progress and failures during instructions.
(C) Degree of achievements of instructions at the end.
(D) Causes and remedies of persistent learning problems during instructions.
- 39.** Instructional aides are used by the teacher to [2015-DECEMBER]
(A) Glorify the class
(B) Attract the students
(C) Clarify the concepts
(D) Ensure discipline
- 40.** Attitude of the teacher that affects teaching pertains to [2015-DECEMBER]
(A) Affective domain

- (B) Cognitive domain
(C) Connative domain
(D) Psychomotor domain
- 41.** "Education is the manifestation of perfection already in man" was stated by [2015-DECEMBER]
(A) M. K. Gandhi
(B) R. N. Tagore
(C) Swami Vivekanand
(D) Sri Aurobindo
- 42.** Which of the following is not a prescribed level of teaching? [2015-DECEMBER]
(A) Memory
(B) Understanding
(C) Reflective
(D) Differentiation
- 43.** In the classroom, the teacher sends the message either as words or images. The students are really [2015-DECEMBER]
(A) Encoders
(B) Decoders
(C) Agitators
(D) Propagators
- 44.** A smart classroom is a teaching space which has [2015-DECEMBER]
i) Smart portion with a touch panel control system.
ii) PC/Laptop connection and DVD/VCR player.
iii) Document camera and specialized software
iv) Projector and screen
- Select the correct answer from the codes given below:
(A) (i) and (ii) only
(B) (ii) and (iv) only
(C) (i), (ii) and (iii) only
(D) (i), (ii), (iii) and (iv)
- 45.** Which one of the following is considered a sign of motivated teaching? [2014-JUNE]
(A) Students asking questions
(B) Maximum attendance of the students
(C) Pin drop silence in the classroom
(D) Students taking notes
- 46.** Which one of the following is the best method of teaching? [2014-JUNE]
(A) Lecture
(B) Discussion
(C) Demonstration
(D) Narration
- 47.** Dyslexia is associated with [2014-JUNE]
(A) mental disorder
(B) behavioural disorder
(C) reading disorder
(D) writing disorder
- 48.** The e-content generation for undergraduate courses has been assigned by the Ministry of Human Resource Development to [2014-JUNE]
(A) INFLIBNET
(B) Consortium for Educational Communication
(C) National Knowledge Commission
(D) Indira Gandhi National Open University
- 49.** Classroom communication is normally considered as [2014-JUNE]
(A) effective
(B) cognitive
(C) affective
(D) selective
- 50.** Who among the following propounded the concept of paradigm? [2014-JUNE]
(A) Peter Haggett
(B) Von Thunen
(C) Thomas Kuhn
(D) John K. Wright

- 51.** While delivering lecture if there is some disturbance in the class, a teacher should [2013-DECEMBER]
(A) keep quiet for a while and then continue.
(B) punish those causing disturbance
(C) motivate to teach those causing disturbance
(D) not bother of what is happening in the class
- 52.** Effective teaching is a function of [2013-DECEMBER]
(A) Teacher's satisfaction.
(B) Teacher's honesty and commitment
(C) Teacher's making students learn and understand
(D) Teacher's liking for professional excellence.
- 53.** The most appropriate meaning of learning is [2013-DECEMBER]
(A) Acquisition of skills
(B) Modification of behaviour
(C) Personal adjustment
(D) Inculcation of knowledge
- 54.** Arrange the following teaching process in order: [2013-DECEMBER]
i) Relate the Present knowledge with Previous one
ii) Evaluation
iii) Reteaching
iv) Formulating instructional objectives
v) Presentation of instructional materials
(A) (i), (ii), (iii), (iv), (v)
(B) (ii), (i), (iii), (iv), (v)
(C) (v), (iv), (iii), (i), (ii)
(D) (iv), (i), (v), (ii), (iii)
- 55.** CIET stands for [2013-DECEMBER]
(A) Centre for Integrated Education and Technology
(B) Central Institute for Engineering and Technology
(C) Central Institute for Education Technology
(D) Centre for Integrated Evaluation Techniques.
- 56.** Teacher's role at higher education [2013-DECEMBER]
(A) provide information to students.
(B) promote self learning in students.
(C) encourage healthy competition among students.
(D) help students to solve their problems.
- 57.** The Verstehen School of Understanding was popularised by [2013-DECEMBER]
(A) German Social scientists
(B) American philosophers
(C) British Academicians
(D) Italian political Analysts
- 58.** A good teacher must be [2013-SEPTEMBER]
(A) resourceful and autocratic
(B) resourceful and participative
(C) resourceful and authoritative
(D) resourceful and dominant
- 59.** Which one of the following is the best method of teaching ? [2013-SEPTEMBER]
(A) Lecture method
(B) Discussion method
(C) Demonstration method
(D) Question-Answer method
- 60.** Successful Communication in classroom teaching is [2013-SEPTEMBER]
(A) Circular
(B) Reciprocal
(C) Directional
(D) Influential

- 61.** Which one of the following types of evaluation assesses the learning progress to provide continuous feedback to both teachers and students during instruction? [2013-SEPTEMBER]
- (A) Placement evaluation
(B) Formative evaluation
(C) Diagnostic evaluation
(D) Summative
- 62.** Which one of the following is a scaled down teaching situation? [2013-SEPTEMBER]
- (A) Macro teaching
(B) Team teaching
(C) Cooperative teaching
(D) Micro teaching
- 63.** CLASS stands for [2013-SEPTEMBER]
- (A) Complete Literacy and Studies in Schools
(B) Computer Literates and Students in Schools
(C) Computer Literacy and Studies in Schools
(D) Centre for Literacy and Studies in Schools
- 64.** The black-board can be utilized best by a teacher for [2013-JUNE]
- (A) Putting the matter of teaching in black and white
(B) Making the students attentive
(C) Writing the important and notable points
(D) Highlighting the teacher himself.
- 65.** Nowadays the most effective mode of learning is [2013-JUNE]
- (A) Self study
(B) Face-to-face learning
(C) e-learning
(D) Blended learning
- 66.** At the primary school stage, most of the teachers should be women because they [2013-JUNE]
- (A) can teach children better than men.
(B) know basic content better than men.
(C) are available on lower salaries.
(D) can deal with children with love and affection.
- 67.** Which one is the highest order of learning? [2013-JUNE]
- (A) Chain learning
(B) Problem-solving learning
(C) Stimulus-response learning
(D) Conditioned-reflex learning
- 68.** A person can enjoy teaching as a profession when he [2013-JUNE]
- (A) has control over students.
(B) commands respect from students.
(C) is more qualified than his colleagues.
(D) is very close to higher authorities.
- 69.** "A diagram speaks more than 1000 words." The statement means that the teacher should [2013-JUNE]
- (A) use diagrams in teaching.
(B) speak more and more in the class.
(C) use teaching aids in the class.
(D) not speak too much in the class.
- 70.** For an efficient and durable learning, learner should have [2012-DECEMBER]
- (A) ability to learn only
(B) requisite level of motivation only
(C) opportunities to learn only
(D) desired level of ability and motivation
- 71.** Classroom communication must be [2012-DECEMBER]
- (A) Teacher centric
(B) Student centric
(C) General centric
(D) Textbook centric

- 72.** The best method of teaching is to [2012-DECEMBER]
(A) impart information
(B) ask students to read books
(C) suggest good reference material
(D) initiate a discussion and participate in it
- 73.** Interaction inside the classroom should generate [2012-DECEMBER]
(A) Argument
(B) Information
(C) Ideas
(D) Controversy
- 74.** "Spare the rod and spoil the child", gives the message that [2012-DECEMBER]
(A) punishment in the class should be banned.
(B) corporal punishment is not acceptable.
(C) undesirable behaviour must be punished.
(D) children should be beaten with rods.
- 75.** The type of communication that the teacher has in the classroom, is termed as [2012-DECEMBER]
(A) Interpersonal
(B) Mass communication
(C) Group communication
(D) Face-to-face communication
- 76.** If you get an opportunity to teach a visually challenged student along with normal students, what type of treatment would you like to give him in the class ? [2012-JUNE]
(A) Not giving extra attention because majority may suffer.
(B) Take care of him sympathetically in the class- room.
(C) You will think that blindness is his destiny and hence you cannot do anything.
(D) Arrange a seat in the front row and try to teach at a pace convenient to him.
- 77.** Which of the following is not a characteristic of a good achievement test ? [2012-JUNE]
(A) Reliability
(B) Objectivity
(C) Ambiguity
(D) Validity
- 78.** Which of the following does not belong to a projected aid ? [2012-JUNE]
(A) Overhead projector
(B) Blackboard
(C) Epidiascope
(D) Slide projector
- 79.** For a teacher, which of the following methods would be correct for writing on the blackboard ? [2012-JUNE]
(A) Writing fast and as clearly as possible.
(B) Writing the matter first and then asking students to read it.
(C) Asking a question to students and then writing the answer as stated by them.
(D) Writing the important points as clearly as possible.
- 80.** A teacher can be successful if he/she [2012-JUNE]
(A) helps students in becoming better citizens
(B) imparts subject knowledge to students
(C) prepares students to pass the examination
(D) presents the subject matter in a well organized manner

- 81.** Dynamic approach to teaching means [2012-JUNE]
 (A) Teaching should be forceful and effective
 (B) Teachers should be energetic and dynamic
 (C) The topics of teaching should not be static, but dynamic
 (D) The students should be required to learn through activities
- 82.** By which of the following methods the true evaluation of the students is possible? [2011-DECEMBER]
 (A) Evaluation at the end of the course.
 (B) Evaluation twice in a year.
 (C) Continuous evaluation.
 (D) Formative evaluation.
- 83.** Suppose a student wants to share his problems with his teacher and he visits the teacher's house for the purpose, the teacher should [2011-DECEMBER]
 (A) contact the student's parents and solve his problem.
 (B) suggest him that he should never visit his house.
 (C) suggest him to meet the principal and solve the problem.
 (D) extend reasonable help and boost his morale.
- 84.** When some students are deliberately attempting to disturb the discipline of the class by making mischief, what will be your role as a teacher? [2011-DECEMBER]
 (A) Expelling those students.
 (B) Isolate those students.
 (C) Reform the group with your authority.
 (D) Giving them an opportunity for introspection and improve their behaviour.
- 85.** Which of the following belongs to a projected aid? [2011-DECEMBER]
 (A) Blackboard
 (B) Diorama
 (C) Epidiascope
 (D) Globe
- 86.** A teacher is said to be fluent in asking questions, if he can ask [2011-DECEMBER]
 (A) meaningful questions
 (B) as many questions as possible
 (C) maximum number of questions in a fixed time
 (D) many meaningful questions in a fixed time
- 87.** Which of the following qualities is most essential for a teacher ? [2011-DECEMBER]
 (A) He should be a learned person.
 (B) He should be a well dressed person.
 (C) He should have patience.
 (D) He should be an expert in his subject.
- 88.** For maintaining an effective discipline in the class, the teacher should [2011-JUNE]
 (A) Allow students to do what they like.
 (B) Deal with the students strictly.
 (C) Give the students some problem to solve.
 (D) Deal with them politely and firmly.
- 89.** An effective teaching aid is one which [2011-JUNE]
 (A) is colourful and good looking
 (B) activates all faculties
 (C) is visible to all students
 (D) easy to prepare and use
- 90.** Those teachers are popular among students who [2011-JUNE]
 (A) develop intimacy with them

- (B) help them solve their problems
 (C) award good grades
 (D) take classes on extra tuition fee
- 91.** The essence of an effective classroom environment is [2011-JUNE]
 (A) a variety of teaching aids
 (B) lively student-teacher interaction
 (C) pin-drop silence
 (D) strict discipline
- 92.** On the first day of his class, if a teacher is asked by the students to introduce himself, he should [2011-JUNE]
 (A) ask them to meet after the class
 (B) tell them about himself in brief
 (C) ignore the demand and start teaching
 (D) scold the student for this unwanted demand
- 93.** Moral values can be effectively inculcated among the students when the teacher [2011-JUNE]
 (A) frequently talks about values
 (B) himself practices them
 (C) tells stories of great persons
 (D) talks of Gods and Goddesses
- 94.** Some students in a class exhibit great curiosity for learning. It may be because such children [2010-DECEMBER]
 (A) Are gifted
 (B) Come from rich families
 (C) Show artificial behaviour
 (D) Create indiscipline in the class
- 95.** The most important quality of a good teacher is [2010-DECEMBER]
 (A) Sound knowledge of subject matter
 (B) Good communication skills
 (C) Concern for students' welfare
 (D) Effective leadership qualities
- 96.** Which one of the following is appropriate in respect of teacher student relationship? [2010-DECEMBER]
 (A) Very informal and intimate
 (B) Limited to classroom only
 (C) Cordial and respectful
 (D) Indifferent
- 97.** The academic performance of students can be improved if parents are encouraged to [2010-DECEMBER]
 (A) supervise the work of their wards
 (B) arrange for extra tuition
 (C) remain unconcerned about it
 (D) interact with teachers frequently
- 98.** In a lively classroom situation, there is likely to be [2010-DECEMBER]
 (A) occasional roars of laughter
 (B) complete silence
 (C) frequent teacher-student dialogue
 (D) loud discussion among students
- 99.** If a parent approaches the teacher to do some favour to his/her ward in the examination, the teacher should [2010-DECEMBER]
 (A) try to help him
 (B) ask him not to talk in those terms
 (C) refuse politely and firmly
 (D) ask him rudely to go away
- 100.** Which one of the following is the most important quality of a good teacher ? [2010-JUNE]
 (A) Punctuality and sincerity
 (B) Content mastery
 (C) Content mastery and reactive
 (D) Content mastery and sociable
- 101.** The primary responsibility for the teacher's adjustment lies with [2010-JUNE]
 (A) The children

- (B) The principal
(C) The teacher himself
(D) The community
- 102.** As per the NCTE norms, what should be the staff strength for a unit of 100 students at B.Ed. level? [2010-JUNE]
(A) 1 + 7
(B) 1 + 9
(C) 1 + 10
(D) 1 + 5
- 103.** Research has shown that the most frequent symptom of nervous instability among teachers is [2010-JUNE]
(A) Digestive upsets
(B) Explosive behaviour
(C) Fatigue
(D) Worry
- 104.** Which one of the following statements is correct? [2010-JUNE]
(A) Syllabus is an annexure to the curriculum.
(B) Curriculum is the same in all educational institutions.
(C) Curriculum includes both formal, and informal education.
(D) Curriculum does not include methods of evaluation.
- 105.** A successful teacher is one who is [2010-JUNE]
(A) Compassionate and disciplinarian
(B) Quite and reactive
(C) Tolerant and dominating
(D) Passive and active
- 106.** The University which telecasts interaction educational programmes through its own channel is [2009-DECEMBER]
(A) Osmania University
(B) University of Pune
(C) Annamalai University
(D) Indira Gandhi National Open University (IGNOU)
- 107.** Which of the following skills are needed for present day teacher to adjust effectively with the classroom teaching? [2009-DECEMBER]
1. Knowledge of technology
2. Use of technology in teaching learning
3. Knowledge of students' needs
4. Content mastery
(A) 1 & 3
(B) 2 & 3
(C) 2, 3 & 4
(D) 2 & 4
- 108.** Who has signed an MOU for Accreditation of Teacher Education Institutions in India? [2009-DECEMBER]
(A) NAAC and UGC
(B) NCTE and NAAC
(C) UGC and NCTE
(D) NCTE and IGNOU
- 109.** The primary duty of the teacher is to [2009-DECEMBER]
(A) raise the intellectual standard of the students
(B) improve the physical standard of the students
(C) help all round development of the students
(D) imbibe value system in the students
- 110.** Micro teaching is more effective [2009-DECEMBER]
(A) during the preparation for teaching-practice
(B) during the teaching-practice
(C) after the teaching-practice
(D) always

- 111.** What quality the students like the most in a teacher? [2009-DECEMBER]
 (A) Idealist philosophy
 (B) Compassion
 (C) Discipline
 (D) Entertaining
- 112.** Which of the following is more interactive and student centric? [2009-DECEMBER]
 (A) Seminar
 (B) Workshop
 (C) Lecture
 (D) Group Discussion
- 113.** Assertion (A): For an effective classroom communication at times it is desirable to use the projection technology. [2009-DECEMBER]
 Reason (R): Using the projection technology facilitates extensive coverage of course contents.
 (A) Both (A) and (R) are true, and (R) is the correct explanation.
 (B) Both (A) and (R) are true, but (R) is not the correct explanation.
 (C) (A) is true, but (R) is false.
 (D) (A) is false, but (R) is true.
- 114.** Good evaluation of written material should not be based on: [2009-JUNE]
 (A) Linguistic expression
 (B) Logical presentation
 (C) Ability to reproduce whatever is read
 (D) Comprehension of subject
- 115.** Why do teachers use teaching aid? [2009-JUNE]
 (A) To make teaching fun-filled
 (B) To teach within understanding level of students
 (C) For students' attention
 (D) To make students attentive
- 116.** Attitudes, concepts, skills and knowledge are products of: [2009-JUNE]
 (A) Learning
 (B) Research
 (C) Heredity
 (D) Explanation
- 117.** Which among the following gives more freedom to the learner to interact? [2009-JUNE]
 (A) Use of film
 (B) Small group discussion
 (C) Lectures by experts
 (D) Viewing country-wide classroom programme on TV
- 118.** Which of the following is not a product of learning? [2009-JUNE]
 (A) Attitudes
 (B) Concepts
 (C) Knowledge
 (D) Maturation
- 119.** According to Swami Vivekananda, teacher's success depends on: [2008-DECEMBER]
 (A) His renunciation of personal gain and service to others
 (B) His professional training and creativity
 (C) His concentration on his work and duties with a spirit of obedience to God
 (D) His mastery on the subject and capacity in controlling the students
- 120.** Which of the following teacher, will be liked most? [2008-DECEMBER]
 (A) A teacher of high idealistic attitude
 (B) A loving teacher
 (C) A teacher who is disciplined
 (D) A teacher who often amuses his students

- 121.** A teacher's most important challenge is: [2008-DECEMBER]
(A) To make students do their home work
(B) To make teaching-learning process enjoyable
(C) To maintain discipline in the class room
(D) To prepare the question paper
- 122.** Value-education stands for: [2008-DECEMBER]
(A) making a student healthy
(B) making a student to get a job
(C) inculcation of virtues
(D) all-round development of personality
- 123.** When a normal student behaves in an erratic manner in the class, you would: [2008-DECEMBER]
(A) pull up the student then and there
(B) talk to the student after the class
(C) ask the student to leave the class
(D) ignore the student
- 124.** The teacher has been glorified by the phrase "Friend, philosopher and guide" because: [2008-JUNE]
(A) He has to play all vital roles in the context of society
(B) He transmits the high value of humanity to students
(C) He is the great reformer of the society
(D) He is a great patriot
- 125.** The most important cause of failure for teacher lies in the area of: [2008-JUNE]
(A) inter personal relationship
(B) lack of command over the knowledge of the subject
(C) verbal ability
(D) strict handling of the students
- 126.** A teacher can establish rapport with his students by: [2008-JUNE]
(A) becoming a figure of authority
(B) impressing students with knowledge and skill
(C) playing the role of a guide
(D) becoming a friend to the students
- 127.** Education is a powerful instrument of: [2008-JUNE]
(A) Social transformation
(B) Personal transformation
(C) Cultural transformation
(D) All the above
- 128.** A teacher's major contribution towards the maximum self-realization of the student is affected through: [2008-JUNE]
(A) Constant fulfilment of the students' needs
(B) Strict control of class-room activities
(C) Sensitivity to students' needs, goals and purposes
(D) Strict reinforcement of academic standards
- 129.** Verbal guidance is least effective in the learning of: [2007-DECEMBER]
(A) Aptitudes
(B) Skills
(C) Attitudes
(D) Relationship
- 130.** Which is the most important aspect of the teacher's role in learning? [2007-DECEMBER]
(A) The development of insight into what constitutes an adequate performance
(B) The development of insight into what constitutes the pitfalls and dangers to be avoided
(C) The provision of encouragement and moral support
(D) The provision of continuous diagnostic and remedial help

- 131.** The most appropriate purpose of learning is: [2007-DECEMBER]
(A) personal adjustment
(B) modification of behaviour
(C) social and political awareness
(D) preparing oneself for employment
- 132.** The students who keep on asking questions in the class should be: [2007-DECEMBER]
(A) encouraged to find answer independently
(B) advised to meet the teacher after the class
(C) encouraged to continue questioning
(D) advised not to disturb during the lecture
- 133.** Maximum participation of students is possible in teaching through: [2007-DECEMBER]
(A) discussion method
(B) lecture method
(C) audio-visual aids
(D) text book method
- 134.** Use of radio for higher education is based on the presumption of: [2007-DECEMBER]
(A) Enriching curriculum based instruction
(B) Replacing teacher in the long run
(C) Everybody having access to a radio set
(D) Other means of instruction getting outdated
- 135.** Teacher uses visual-aids to make learning: [2007-JUNE]
(A) simple
(B) more knowledgeable
(C) quicker
(D) interesting
- 136.** The teacher's role at the higher educational level is to: [2007-JUNE]
(A) provide information to students
(B) promote self-learning in students
(C) encourage healthy competition among students
(D) help students to solve their personal problems
- 137.** Which one of the following teachers would you like the most: [2007-JUNE]
(A) punctual
(B) having research aptitude
(C) loving and having high idealistic philosophy
(D) who often amuses his students
- 138.** Micro teaching is most effective for the student-teacher: [2007-JUNE]
(A) during the practice-teaching
(B) after the practice-teaching
(C) before the practice-teaching
(D) none of the above
- 139.** Which is the least important factor in teaching? [2007-JUNE]
(A) punishing the students
(B) maintaining discipline in the class
(C) lecturing in impressive way
(D) drawing sketches and diagrams on the black-board
- 140.** Which of the following is not instructional material? [2006-DECEMBER]
(A) Over Head Projector
(B) Audio Casset
(C) Printed Material
(D) Transparency
- 141.** Which of the following statement is not correct? [2006-DECEMBER]
(A) Lecture Method can develop reasoning

- (B) Lecture Method can develop knowledge
 (C) Lecture Method is one way process
 (D) During Lecture Method students are passive
- 142.** The main objective of teaching at Higher Education Level is: [2006-DECEMBER]
 (A) To prepare students to pass examination
 (B) To develop the capacity to take decisions
 (C) To give new information
 (D) To motivate students to ask questions during lecture
- 143.** Which of the following statement is correct? [2006-DECEMBER]
 (A) Reliability ensures validity
 (B) Validity ensures reliability
 (C) Reliability and validity are independent of each other
 (D) Reliability does not depend on objectivity
- 144.** Which of the following indicates evaluation? [2006-DECEMBER]
 (A) Ram got 45 marks out of 200
 (B) Mohan got 38 percent marks in English
 (C) Shyam got First Division in final examination
 (D) All the above
- 145.** Which of the following comprise teaching skill? [2006-JUNE]
 (A) Black Board writing
 (B) Questioning
 (C) Explaining
 (D) All the above
- 146.** Which of the following statements is most appropriate? [2006-JUNE]
 (A) Teachers can teach.
 (B) Teachers help can create in a student a desire to learn.
 (C) Lecture Method can be used for developing thinking.
 (D) Teachers are born.
- 147.** The first Indian chronicler of Indian history was: [2006-JUNE]
 (A) Megasthenese
 (B) Fahiyān
 (C) Huan Tsang
 (D) Kalhan
- 148.** Which of the following statements is correct? [2006-JUNE]
 (A) Syllabus is a part of curriculum.
 (B) Syllabus is an annexure to curriculum.
 (C) Curriculum is the same in all educational institutions affiliated to a particular university.
 (D) Syllabus is not the same in all educational institutions affiliated to a particular university.
- 149.** Which of the two given options is of the level of understanding? [2006-JUNE]
 I) Define noun.
 II) Define noun in your own words.
 (A) Only I
 (B) Only II
 (C) Both I and II
 (D) Neither I nor II
- 150.** Team teaching has the potential to develop: [2005-DECEMBER]
 (A) Competitive spirit
 (B) Cooperation
 (C) The habit of supplementing the teaching of each other
 (D) Highlighting the gaps in each other's teaching

- 151.** Which of the following is the most important characteristic of Open Book Examination system? [2005-DECEMBER]
- (A) Students become serious.
 - (B) It improves attendance in the class-room.
 - (C) It reduces examination anxiety amongst students.
 - (D) It compels students to think.
- 152.** Which of the following methods of teaching encourages the use of maximum senses? [2005-DECEMBER]
- (A) Problem-solving method
 - (B) Laboratory method
 - (C) Self-study method
 - (D) Team teaching method
- 153.** Which of the following statement is correct? [2005-DECEMBER]
- (A) Communicator should have fine senses
 - (B) Communicator should have tolerance power
 - (C) Communicator should be soft spoken
 - (D) Communicator should have good personality
- 154.** An effective teacher is one who can: [2005-DECEMBER]
- (A) control the class
 - (B) give more information in less time
 - (C) motivate students to learn
 - (D) correct the assignments carefully
- 155.** Discussion Method can be used when: [2004-DECEMBER]
- (A) The topic is very difficult
 - (B) The topic is easy
 - (C) The topic is difficult
 - (D) All of the above
- 156.** Which of the following is a teaching aid? [2004-DECEMBER]
- (A) Working Model of Wind Mill
 - (B) Tape Recorder
 - (C) 16mm Film Projector
 - (D) All the above
- 157.** The main aim of teaching is: [2004-DECEMBER]
- (A) To develop only reasoning
 - (B) To develop only thinking
 - (C) Both (A) and (B)
 - (D) To give information
- 158.** The quality of teaching is reflected: [2004-DECEMBER]
- (A) By the attendance of students in the class
 - (B) By the pass percentage of students
 - (C) By the quality of questions asked by students
 - (D) By the duration of silence maintained in the class
- 159.** The present annual examination system: [2004-DECEMBER]
- (A) promotes rote learning
 - (B) does not promote good study habits
 - (C) does not encourage students to be regular in class
 - (D) All the above

2. Research aptitude

Research basically means an art of scientific investigation. The definition of research varies according to different researchers. One such definition of research, according to Redman and Mory is “research is a systematized effort to gain new knowledge” This basically means Research is a walking from known thing towards unknown thing. It is basically a systematized process of discovery.

According to John W. Best “research is considered to be the more formal, systematic intensive process of carrying on the scientific method of analyses. It involves a more systematic structure of investigation, usually resulting in some sort of formal record of procedure and a report of results or conclusions”. The meaning of research is totally confined inside the word RESEARCH. If we analyze letter by letter, we will get

R : Rational way of thinking

E : Expert and exhaustive

S : Search for solution

E : Exactness

A : Analytical analyses of adequate data

R : Relationships of facts

C : Careful recording, critical observation and constructive attitude

H : Honesty

Definition 2.1 Here are some different definition of research given briefly

1. Research is an attitude of new discovery
2. Research is an attempt to redefine the facts.
3. Research is a scientific method
4. Research is friendly, welcoming attitude towards a change
5. Research is investigating something from known to unknown
6. Research means establishing new facts from known facts

2.1 Meaning and characteristics of research

Research characteristics Research is defined as the scientific investigation of phenomena which includes collection, presentation, analysis and interpretation of facts. In the book entitled “ research in education” John W. Best and James says “research is a more systematic activity that is directed towards discovery and the development of an organized body of knowledge. Research may be defined as the systematic objective analysis and the recording of control observation that may lead to the development of generalizations, principles, or theories, resulting in prediction and possibly ultimate control of events”

The characteristics of research according to John W. Best and James V. Kahn are

1. Research is directed toward the solution of a problem.
2. Research emphasizes the development of generalizations, principles, or theories that will be helpful in predicting future occurrences. Research usually goes beyond the specific objects, groups, or situations investigated and infer characteristics of a target population from the sample observed. Research is more than information retrieval, the simple gathering of information.
3. Research is based upon observable experience or empirical evidence. Certain interesting questions do not lend themselves to research procedures because they cannot be observed.
4. Research demands accurate observation and description. Researchers may choose to use quantitative measuring devices when possible. When this is not possible or appropriate to answer the researchers question, they may choose from a variety of qualitative, or non quantitative, descriptions of their observations. Good research utilizes valid and reliable data gathering procedures.
5. Research involves gathering new data from primary or first-hand sources or using existing data for a new purpose. The students are expected to read a number of encyclopedias, books, or periodical references and to synthesize the information in a written report. Merely reorganizing or restating what is already known and has already been written, valuable as it may be as a learning experience, is not research. It adds nothing to what is known.
6. Although research activity may at times be somewhat random and unsystematic, it is more often characterized by carefully designed procedures that apply rigorous analysis.
7. Research requires expertise. The researcher knows what is already known about the problem and how others have investigated it. He or she has searched the related literature carefully and is also thoroughly grounded in the terminology, concepts, and technical skills necessary to understand and analyze the data gathered.
8. Research strives to be objective and logical, applying every possible test to validate the procedures employed, the data collected, and the conclusions reached. The researcher attempts to eliminate personal bias. There is no attempt to persuade or to prove an emotionally held conviction. The emphasis is on testing rather than on proving the hypothesis.
9. Research involves the quest for answers to unsolved problems. However, previous important studies are deliberately repeated, using identical or similar procedures, with different subjects, different settings, and at a different time. This process is replication, a fusion of the words repetition and duplication. Replication is always desirable to confirm or to raise questions about the conclusions of a previous study.
10. Research is characterized by patient and unhurried activity. It is rarely spectacular, and researchers must expect disappointment and discouragement as they pursue the answers to difficult questions.

11. Research is carefully recorded and reported. Each important term is defined, limiting factors are recognized, procedures are described in detail, references are carefully documented, results are objectively recorded, and conclusions are presented with scholarly Caution and restraint. The written report and accompanying data are made available to the scrutiny of associates or other scholars. Any competent scholar will have the information necessary to analyze, evaluate, and even replicate the study. Research sometimes requires courage. The history of science reveals that many important discoveries were made in spite of the opposition of political and religious authorities. The Polish scientist Copernicus (1473- 1543) was condemned by church authorities when he announced his conclusion concerning the nature of the solar system-. His theory, in direct conflict with the older Ptolemaic theory, held that the sun, not the earth, was the center of the solar system. Copernicus angered supporters of prevailing religious dogma, who viewed his theory as a denial of the story of creation as described in the book of Genesis. Modern researchers in such fields as genetics, sexual behavior, and even business practices have aroused violent criticism from those whose personal convictions, experiences, or observations were in conflict with some of the research conclusions

The chief characteristics of educational research as described by Lulla, Murty and Taneja in their book "Essentials of Educational Research" are presented below:

1. Educational research is highly purposeful, dealing with the problems of immediate and remote concern to the teachers and educationists.
2. Educational research follows a systematic process of investigation as precisely, objectively and scientifically as possible;
3. Educational research involves determination of the problem to be studied, formulation of hypotheses, gathering of information and necessary data from the concerned sources and using different tools of investigation;
4. Educational research employs scientific methods, objective procedures, logical arguments and inductive reasoning;
5. Educational research attempts to organize the data in quantitative or qualitative terms to arrive at statistical inference;
6. Educational research emphasizes the discovery of new facts or interpretation of known facts in a new perspective;
7. Educational research has some underlying philosophic theory;
8. Educational research depends on the ability, ingenuity and experience of the research for its conclusions and interpretations;
9. Educational research demands interdisciplinary approach to solve many of its problem;
10. Educational research demands subjective interpretation and deductive reasoning in some cases; and,
11. Educational research uses class-rooms, schools and departments of education as the laboratories for conducting experiments studies and surveys.

Definition 2.2 Following are few important characteristic of any research

- **Empirical:** Research is based on direct experience or observation by the researcher.
- **Logical:** Research must be based on valid procedures and principles.
- **Cyclical:** Research is a cyclical process because it starts with a problem and ends with a problem. The result of research can be negative, positive or even nil.
- **Analytical:** Research utilizes proven analytical procedures in gathering the data, whether

historical, descriptive, and experimental and case study.

- **Critical:** Research exhibits careful and precise judgment.
- **Methodical:** Research is conducted in a methodical manner without bias using systematic method and procedures.
- **Reliability:** The research design and procedures are replicated or repeated to enable the researcher to arrive at valid and conclusive results.

2.2 Qualities of a Good Researcher

To be a good researcher, one must have the following qualities.

- | | | |
|----------------------|----------------|---------------|
| 1. Research-oriented | 4. Effective | 7. Creative |
| 2. Efficient | 5. Active | 8. Honest |
| 3. Scientific | 6. Resourceful | 9. Economical |

2.3 Characteristics of the Researcher

To be a good researcher, one must have more or less the following characteristic.

1. **Intellectual Curiosity:** The researcher must take care of deep thinking and enquiry about the things and situation around the world
2. **Prudence:** The researcher is careful to conduct his research study at the right time and at the right place wisely, efficiently, and economically.
3. **Healthy Criticism:** The researcher is always doubtful as to the truthfulness of the results.
4. **Intellectual Honesty:** An intelligent researcher is honest to collect or gather data or facts in order to arrive at honest results.
5. **Intellectual Creativity:** A productive and resourceful investigator always creates new researches.

2.4 Classification of research

We can classify category of research in the following major groups. John W. Best and James V. Kahn have mentioned three different types of purposes of research. These are:

- | | |
|-------------------------|---------------------|
| 1. Fundamental research | 2. Applied research |
| | 3. Action research |

Educational research is further classified following four categories

- | | |
|--------------------------------------|-------------------------------------|
| 1. Historical research | 3. Qualitative descriptive research |
| 2. Quantitative descriptive research | 4. Experimental research |

John W. Best and James V. Kahn say "Any attempt to classify types of educational research poses a difficult problem".

1. **Fundamental or basic research:** Fundamental research is also known as basis research. If the goal of the research is to find out the basic truth or principles, it is called as fundamental or basic research. This type of research is carried out in a laboratory or other sterile environment, sometimes with animals also. Examples of fundamental research is

- | | | |
|-----------------|-------------------------------|-----------------|
| a. Boyle's Law | c. Archimede's Princi-
ple | d. Hooke's Law |
| b. Charle's Law | | e. Newton's Law |

2. **Applied research:** most of the characteristics of fundamental research is found in applied research. This type of research involves finding new applications of scientific knowledge to the solution of a problem such as development of the new system, new device or new methods or tools in order to solve the problem. Mind it, most of the educational research falls under the category of applied research.
3. **Action research:** action research is used to solve an immediate application, not on the development of theory or general application. If the researcher finds any problem at time of his fields, investigation and observation, the researcher applies action research at that time
4. **Educational research:** According to John W. Best and James V. Kahn "it should be noted that the system of classification is not important in itself but only has value in making the analysis of research processes more comprehensible". Educational research is directed towards the development of science of behavior in education situations .Practically, all studies fall under one, or a combination, of the following types.
 - a. **Historical research:** Historical research talks about the past. In this type of research we need investigation, recording, analyzing and interpreting the events of the past for the purpose of discovering generalization.
 - b. **Quantitative descriptive research:** This method is used to describe what is being described, recording, analyzing, and interpreting conditions that make this around ours. It is used to discover the relationship between non-manipulated existing variables.
 - c. **Qualitative descriptive research:** This type of research use non-quantitative methods. This method of research is used to discover non-quantified relationship between existing variable.
 - d. **Experimental research:** It describes "what will happen" in the future if certain variables are carefully controlled and manipulated. Main focus of this kind of research is to find out the relationship between variables

2.5 Steps of research

To do a research one have to keep in mind the research goal and its purposes. The technique of research needs different tools and instrument for gathering the data. Following are the steps to do research

1. Select the topic of candidate interest.
2. Exhaustive literature study
3. Formulation of the problem
4. Definition of the problem
5. Create own method/ Algorithm
6. Selection of the sample data
7. Data Collection, Data Processing, and Analysis
8. Correctly interpretation of the data
9. Testing the Hypotheses; Answering the Research Questions
10. Throwing of inferences or conclusions
11. Reporting of the research done that means the research report

2.6 What research can do in human life?

Research is an important part of today's modern human society. Without research, we cannot live our life with luxury. Following are the important points, which research can play in our daily life

1. Improvement of the quality of life is depends on the research
2. Any dream of students is achieved by research
3. Research improves the teachers Competency
4. Research reduces the man work power
5. Research satisfies needs of human being
6. Research improves the country's economy

2.7 The variable

Variable is defined as a quantity which is fluctuated its value under different conditions. In this section we will discuss different types of variable

1. **Independent and dependent variable:** Independent variable is chosen by the researcher to predict the relationship with observed phenomena. In an experiment, the independent variable is the variable that is varied or manipulated by the researcher, and the dependent variable is the response that is measured. An independent variable is the presumed cause, whereas the dependent variable is the presumed effect.
2. **Moderator variable:** this is a secondary or special type of independent variable chosen by the researcher to determine if it changes or modifies the relationship between the independent and dependent variables.
3. **Control variable:** This is the variable that is controlled by the investigator in which the effects can be neutralized by eliminating or removing the variable.
4. **Intervening variable:** This is a variable which interferes with the independent and dependent variables, but its effects can either strengthen or weaken the independent and dependent variables.

2.8 Standard of good research

Research activity is set to be standard or good if it satisfies some criteria as shown below

1. The skeleton of the research process must be carefully planned to get the output of the research.
2. A researcher should be frank to discuss things among colleagues.
3. The concepts used in research should be common
4. the purpose of the research must be clearly designed
5. For further advancement of research, one must give details about their research.
6. Careful attention must be needed to check the method of analysis
7. The analysis of data would be sufficiently adequate to reveal its significance in the research.

2.9 How to find the research problem

To find a good research problem, we must have to consider five factors to check whether the problem is researchable or not. The five factors are as follows.

1. All the existing problem in country or in the world, which don't have any known solution
2. Whether the solution can be obtained by using the statistical tools and techniques

3. There are lots of solutions available, but they are not yet tested physically
4. To conclude a solution, problem need scientific investigation.
5. Emergency needs or problems of the mankind where it demands research

2.10 Characteristics of any research problem

Not all the problem arises in universe a research problem. A research problem must have some characteristics. Following are the characteristics of a research problem. If any problem posses all these properties, then it is said to be a research problem.

1. **Specific:** The problem must be specifically tested
2. **Measurable:** The problem is easy to measure by using some research tool or equipment
3. **Achievable:** The data needs to do the research must be achievable using correct tools to get the final result
4. **Realistic:** The final result must be realistic and must reflect in the real world
5. **Time bound:** In all the activities of the research, there must be time bound because if the time span to complete an activity is smaller then it is obviously better

2.11 Sources of research problem

Though it is true that there are lots of research problem available in our world, but sometimes students failed to find a good research problem. Finding out the research problem is a big task for a researcher specifically, student. Following are important points, which must kept in mind to find out a research problem.

1. Specialization of the researcher(one have to take care about the specialization of the student)
2. what are the current scenarios in research and what have been done in past on that topic
3. One can take recommendation from previous theses or research reports.
4. Look after all the problems in the locality or in nation.

2.12 Criteria of a good research problem

Some research problem is said to be good, some are moderate and others not at all fits in current scenario. The research problem is said to be good if it has the following properties.

1. **Interesting:** research problem must be interested such that it attracts the students
2. **Innovative:** problem must be innovative, so that students can apply innovative idea in that problem to get the result.
3. **Cost-effective:** a good research problem must be economical
4. **Relevancy:** Research problem must be relevant to the needs of people
5. Research problem must be relevant to the government, nation, and mankind.
6. **Timeliness:** An unbounded research problem is not feasible. There must be time bound in a good research problem.

2.13 Hypothesis

A proposition that can be verified to determine its reality is a hypothesis. A hypothesis may be defined as a logically conjectured relationship between two or more variables, expressed in the form of a testable statement. Relationship is proposed by using a strong logical argumentation.

This logical relationship may be part of theoretical framework of the study. For example,

- Officers in my organization have higher than average level of commitment (variable).
- Level of job commitment of the officers is associated with their level of efficiency.
- Level of job commitment of the officers is positively associated with their level of efficiency.
- The higher the level of job commitment of the officers the lower their level of absenteeism.

There are different types of hypothesis which are as follows

1. Descriptive Hypothesis
2. Relational Hypothesis
3. Correlational hypotheses
4. Explanatory (causal) hypotheses
5. Null Hypothesis
6. Alternative Hypothesis
7. Research Hypothesis

Descriptive Hypothesis Descriptive hypothesis contains only one variable thereby it is also called as univariate hypothesis. Descriptive hypotheses typically state the existence, size, form, or distribution of some variable.

Relational Hypothesis These are the propositions that describe a relationship between two variables. The relationship could be non-directional or directional, positive or negative, causal or simply correlational. While stating the relationship between the two variables, if the terms of positive, negative, more than, or less than are used then such hypotheses are directional because the direction of the relationship between the variables (positive/negative) has been indicated. These hypotheses are relational as well as directional. The directional hypothesis is the one in which the direction of the relationship has been specified.

Non-directional hypothesis is the one in which the direction of the association has not been specified. The relationship may be very strong but whether it is positive or negative has not been postulated.

Correlational hypotheses It state merely that the variables occur together in some specified manner without implying that one causes the other. Such weak claims are often made when we believe that there are more basic causal forces that affect both variables. For example: Level of job commitment of the officers is positively associated with their level of efficiency.

Explanatory (causal) hypotheses It imply the existence of, or a change in, one variable causes or leads to a change in the other variable. This brings in the notions of independent and the dependent variables. Cause means to “help make happen.” So the independent variable may not be the sole reason for the existence of, or change in the dependent variable.

Null Hypothesis It is used for testing the hypothesis formulated by the researcher. Researchers treat evidence that supports a hypothesis differently from the evidence that opposes it. They give negative evidence more importance than to the positive one. It is because the negative evidence tarnishes the hypothesis. It shows that the predictions made by the hypothesis are wrong. The null hypothesis simply states that there is no relationship between the variables or the relationship between the variables is “zero.” . That is how symbolically null hypothesis is denoted as H_0 . For example:

$H_0 =$ There is no relationship between the level of job commitment and the level of efficiency. Or

$H_0 =$ The relationship between level of job commitment and the level of efficiency is zero

Or the two variables are independent of each other. It does not take into consideration the direction of association (i.e. H_0 is non directional), which may be a second step in testing the hypothesis.

Alternative Hypothesis The alternative (to the null) hypothesis simply states that there is a relationship between the variables under study. In our example it could be: there is a relationship between the level of job commitment and the level of efficiency. Not only there is an association between the two variables under study but also the relationship is perfect which is indicated by the number 1. Thereby the alternative hypothesis is symbolically denoted as H_1 . It can be written like this:

H_1 : There is a relationship between the level of job commitment of the officers and their level of efficiency

Research Hypothesis Research hypothesis is the actual hypothesis formulated by the researcher which may also suggest the nature of relationship i.e. the direction of relationship.

2.14 Solved exercises

The following questions have been designed to test the objectives identified for this chapter.

Solved exercises

- If a researcher conducts a research on finding out which administrative style contributes more to institutional effectiveness? This will be an example of (June-2010)
 - Basic Research
 - Action Research
 - Applied Research
 - None of the above
- Normal Probability Curve should be (June-2010)
 - Positively skewed
 - Negatively skewed
 - Leptokurtic skewed
 - Zero skewed
- Which of the following options are the main tasks of research in modern society? (June-2006)
 - to keep pace with the advancement in knowledge
 - to discover new things.
 - to write a critique on the earlier writings.
 - to systematically examine and critically analyse the investigations/sources with objectivity.
- Match List-I (Interviews) with List-II (Meaning) and select the correct answer from the code given below: (June-2006)

List - I (Interviews)	List - II (Meaning)
a) structured interviews	i) greater flexibility approach.
b) Unstructured interviews	ii) attention on the questions to be answered
c) Focused interviews	iii) individual life experience
d) Clinical interviews	iv) Pre determined question
	(v) non-directive

 - $A - (iv), B - (i), C - (ii), D - (iii)$
 - $A - (ii), B - (iv), C - (i), D - (iii)$
 - $A - (v), B - (ii), C - (iv), D - (i)$
 - $A - (i), B - (iii), C - (v), D - (iv)$

5. The correlation between two variables in which the effect of some other variable or variables on their relationship is controlled is called
- (A) Contingency coefficient of correlation.
(B) Multiple correlations.
(C) Partial correlation.
(D) Product-moment correlation.
6. What is the nature of the statement that experimental generalizations are statistical inferences; they can only attain a degree of probability somewhere along a continuum between truth and falsity?
- (A) Not wholly true
(B) Wholly true
(C) Incorrect entirely
(D) None of the above .
7. Which of the following is NOT an advantage of non-parametric statistical tests?
- (A) They can be used when data are in the forms of ranks or categories
(B) They yield statements of exact probabilities irrespective of the shape of the population distribution
(C) They are less powerful than the parametric tests.
(D) They can be used in situations where parametric tests are applicable
8. ANOVA does NOT assume that
- (A) The treatment groups are selected at random from the same population.
(B) The adjusted scores within groups have normal distribution.
(C) The treatment groups are homogeneous.
(D) The treatment groups are drawn from a larger population.
9. When large groups of interconnected facts are considered together in a consistent manner, we get a
- (A) Scientific Theory
(B) Critical Problem
(C) Combined Result
(D) Confirmed Fact
10. If in a research independent variables cannot be manipulated then it is known as
- (A) Experimental Research
(B) Non-experimental Research
(C) Fundamental Research
(D) Exploratory Research
11. A statistical measure based upon the entire population is called parameter while a measure based upon a sample is known as
- (A) Sample parameter
(B) Inference
(C) Statistic
(D) None of these
12. Ordinarily a good piece of research follows four phases. They are given below
- I Setting of objectives
II Analyzing data
III Collecting data
IV Interpreting the findings
- Which of the following orders for these phases is correct?
- (A) III,I,IV,II
(B) I,III,II,IV
(C) I,II,III,IV
(D) II,IV,III,I
13. What do you consider as the main aim of inter disciplinary research? (June-2006)
- (A) To bring out holistic approach to research.
(B) To reduce the emphasis of single subject in research domain.
(C) To over simplify the problem of research.
(D) To create a new trend in research methodology.

- 14.** One of the aims of the scientific method in research is to: (June-2006)
- (A) improve data interpretation
 - (B) eliminate spurious relations
 - (C) confirm triangulation
 - (D) introduce new variables
- 15.** The depth of any research can be judged by: (June-2006)
- (A) Title of the research.
 - (B) Objectives of the research.
 - (C) Total expenditure on the research.
 - (D) Duration of the research.
- 16.** Research can be conducted by a person who: (December-2006)
- (A) has studied research methodology
 - (B) holds a postgraduate degree
 - (C) possesses thinking and reasoning ability
 - (D) is a hard worker
- 17.** Which of the following statements is correct? (December-2006)
- (A) Objectives of research are stated in first chapter of the thesis
 - (B) Researcher must possess analytical ability
 - (C) Variability is the source of problem
 - (D) All the above
- 18.** Suppose you have a glass of milk and with a measuring glass you continue to add half a c.c. of plain tea at every step, till your friend reports a change in judgment in the color of the milk. The quantity of tea added, has just crossed what is just termed as
- (A) Illusion
 - (B) Absolute Threshold
 - (C) Color Blindness
 - (D) Just Noticeable Difference
- 19.** Suppose one Experimenter (E) in psychology firmly believes that Brahmin children are inherently superior to the Harijan children. Naturally he would never think of home environment as an explanation. This is a very obvious example of
- (A) Experimenter's Bias
 - (B) Subject's Bias
 - (C) Stimulus Error
 - (D) Response Error
- 20.** Which one of the following approaches tries to analyze human behavior in terms of stimulus-response units acquired through the process of learning, mainly through instrumental conditioning?
- (A) Cognitive Approach
 - (B) Dynamic and Psychoanalytic Approach
 - (C) Stimulus-Response-Behaviouristic Approach
 - (D) Existential Approach
- 21.** The approach which has its roots in Gestalt Psychology is popularly known as
- (A) Holistic Approach
 - (B) Stimulus-Response-Behaviouristic Approach
 - (C) Dynamic and Psychoanalytic Approach
 - (D) Cognitive Approach
- 22.** Which approach emphasizes the role of instinctual processes and their modification in the course of interaction with the society?
- (A) Dynamic and Psychoanalytic Approach
 - (B) Cognitive Approach
 - (C) Holistic Approach
 - (D) Stimulus-Response-Behaviouristic Approach

- 23.** Which approach placed emphasis on human existence—the need to establish a sense of personal identity and to build meaningful links with the world?
 (A) Cognitive Approach
 (B) Dynamic and Psychoanalytic Approach
 (C) Holistic Approach
 (D) Existential Approach
- 24.** Which of the following is not the Method of Research? (December-2006)
 (A) Observation
 (B) Historical
 (C) Survey
 (D) Philosophical
- 25.** Research can be classified as: (December-2006)
 (A) Basic, Applied and Action Research
 (B) Quantitative and Qualitative Research
 (C) Philosophical, Historical, Survey and Experimental Research
 (D) All the above
- 26.** The first step of research is: (December-2006)
 (A) Selecting a problem
 (B) Searching a problem
 (C) Finding a problem
 (D) Identifying a problem
- 27.** To test null hypothesis, a researcher uses: (June-2007)
 (A) t test
 (B) ANOVA
 (C) X²
 (D) factorial analysis
- 28.** A research problem is feasible only when: (June-2007)
 (A) it has utility and relevance
 (B) it is researchable
 (C) it is new and adds something to knowledge
 (D) all the above
- 29.** Existentialism tries to reach modern man, offer him help in terms of clarifying his values, work out a meaningful and purposive existence. Psychologists who shaped this approach were
 (A) Rollo May, R. D. Laing and Erick Fromm
 (B) G. W. Allport, R. B. Catell and H. J. Eysenk
 (C) Erickson and Sullivan
 (D) Piaget, Bruner and Witkin
- 30.** The system which still survives very nearly in its rigid forms is
 (A) Cognitive Approach
 (B) Dynamic and Psychoanalytic Approach
 (C) Wholistic Approach
 (D) Existential Approach
- 31.** Which approach tells us that under normal conditions the Organism is not a passive recipient of stimuli but an active, seeking and striving entity trying to master the environment and also master itself?
 (A) Organism, Wholistic and Self Approaches
 (B) Dynamic and Psychoanalytic Approach
 (C) Cognitive Approach
 (D) Existential Approach
- 32.** Bibliography given in a research report: (June-2007)
 (A) shows vast knowledge of the researcher
 (B) helps those interested in further research
 (C) has no relevance to research
 (D) all the above

- 33.** Fundamental research reflects the ability to: (June-2007)
- (A) Synthesize new ideals
 - (B) Expound new principles
 - (C) Evaluate the existing material concerning research
 - (D) Study the existing literature regarding various topics
- 34.** The study in which the investigators attempt to trace an effect is known as: (June-2007)
- (A) Survey Research
 - (B) Ex-post Facto' Research
 - (C) Historical Research
 - (D) Summative Research
- 35.** Generalised conclusion on the basis of a sample is technically known as: (December-2007)
- (A) Data analysis and interpretation
 - (B) Parameter inference
 - (C) Statistical inference
 - (D) All of the above
- 36.** Psychologists are sometimes interested to study consciousness even though they have no method of observing it directly except by using
- (A) "Inference" as the only tool
 - (B) "Experimentation" as the only tool
 - (C) "Observation" technique
 - (D) "Introspection" technique
- 37.** The term "unconscious motivation" describes the key idea of
- (A) Structuralism
 - (B) Functionalism
 - (C) Psychoanalysis
 - (D) Behaviorism
- 38.** The psychologists who are especially concerned with increasing the efficiency of learning in school by applying their psychological knowledge about learning and motivation to the curriculum are popularly known as
- (A) Experimental Psychologists
 - (B) Clinical Psychologists
 - (C) Physiological Psychologists
 - (D) Educational Psychologists
- 39.** The experimental study is based on: (December-2007)
- (A) The manipulation of variables
 - (B) Conceptual parameters
 - (C) Replication of research
 - (D) Survey of literature
- 40.** The main characteristic of scientific research is: (December-2007)
- (A) empirical
 - (B) theoretical
 - (C) experimental
 - (D) all of the above
- 41.** Authenticity of a research finding is its: (December-2007)
- (A) Originality
 - (B) Validity
 - (C) Objectivity
 - (D) All of the above
- 42.** Which technique is generally followed when the population is finite? (December-2007)
- (A) Area Sampling Technique
 - (B) Purposive Sampling Technique
 - (C) Systematic Sampling Technique
 - (D) None of the above
- 43.** Probability sampling implies: (December-2007)
- (A) Stratified Random Sampling
 - (B) Systematic Random Sampling
 - (C) Simple Random Sampling
 - (D) All of the above

- 44.** According to Lindquist, how many types of experimental designs possible
- (A) five
 - (B) six
 - (C) seven
 - (D) eight
- 45.** Who of the following has edited a survey of educational research ?
- (A) Kothari
 - (B) Buch
 - (C) Yashpal
 - (D) Aryabhata
- 46.** The polluted facts can lead to the birth of
- (A) Error free research
 - (B) human sorrows
 - (C) good research
 - (D) polluted research
- 47.** Photocopy of books is not considered appropriate, as it is
- (A) violation of intellectual property
 - (B) difficulty for reading
 - (C) and act of plagiarism
 - (D) both B and C
- 48.** Research problem is selected from the stand point of: (June-2008)
- (A) Researcher's interest
 - (B) Financial support
 - (C) Social relevance
 - (D) Availability of relevant literature
- 49.** Which one is called non-probability sampling? (June-2008)
- (A) Cluster sampling
 - (B) Quota sampling
 - (C) Systematic sampling
 - (D) Stratified random sampling
- 50.** Formulation of hypothesis may NOT be required in: (June-2008)
- (A) Survey method
 - (B) Historical studies
 - (C) Experimental studies
 - (D) Normative studies
- 51.** Field-work based research is classified as: (June-2008)
- (A) Empirical
 - (B) Historical
 - (C) Experimental
 - (D) Biographical
- 52.** The research papers are written to
- (A) communicate the research
 - (B) become popular in the society
 - (C) gain a lot of money
 - (D) none of the above
- 53.** Which one of the following generally does not participate in concurrence?
- (A) intelligent and curious person
 - (B) ignorant and dull persons
 - (C) highly expert person in that field
 - (D) low quality research scholars
- 54.** In the assessment of personality, the normative and objective method refers to
- (A) The use of sophisticated techniques for measuring the accuracy of a person's perception of reality.
 - (B) Prediction of behavior on the basis of intensive interviewing.
 - (C) Prediction of behavior on the basis of data from personality tests.
 - (D) The use of projective techniques.
- 55.** Which is the best format to use if content and material gathered for certain number of students by different interviews have to be compared in a piece of research ?
- (A) Projective
 - (B) Structured
 - (C) Unstructured
 - (D) Analytical.

- 56.** What best describes the Likert technique of attitude measurement?
- (A) Subjects indicate whether they agree with each of a series of attitude statements which are equally spaced along an attitude continuum
- (B) Subjects indicate on five point scales the extent of their agreement with a set of attitude statements
- (C) Subjects judge a particular concept on a series of bipolar semantic scale
- (D) Subjects response to an open-ended interview are coded by content analyst.
- 57.** What can increase the power of a statistical test?
- (A) Decreasing the size of the sample
- (B) Avoiding the use if the null hypothesis
- (C) Designing for small error effects
- (D) Avoiding random sampling.
- 58.** Which is not the effective way of controlling a nuisance variable in an experimental design?
- (A) Excluding the variable as one of the factors in the experiment
- (B) Exercising statistical control
- (C) Random assignment of subjects
- (D) Holding the nuisance variable constant for all subjects.
- 59.** What are the types of Descriptive Research?
- (A) Survey Test
- (B) Questionnaire Survey
- (C) Interview Survey
- (D) All of the above .
- 60.** Who has defined Ex-Post Facto Research by saying that it is a systematic scientific exploration in which the scientist (researcher) does not have direct control on the independent variable?
- (A) Fred Karlinger
- (B) George J. Mouly
- (C) John W. Best
- (D) W.S. Monroe.
- 61.** What are the types of variables?
- (A) Independent variables
- (B) Controlled variables
- (C) Both of them
- (D) None of these.
- 62.** What is the difference between Laboratory Experiment and Field Experiment?
- (A) Difference of place
- (B) Difference of samples
- (C) Difference of variables
- (D) All of the above .
- 63.** Which experiments are more popular in Educational Psychology?
- (A) Laboratory Experiments
- (B) Field Experiments
- (C) Field Studies
- (D) Historical Researches.
- 64.** In some developed countries like U.S A. and U.K. many psychologists are engaged for diagnosing learning difficulties and trying to remedy them. These psychologists are popularly called
- (A) School Psychologists
- (B) Social Psychologists
- (C) Experimental Psychologists
- (D) Industrial Psychologists
- 65.** Which of the following sampling method is appropriate to study the prevalence of AIDS amongst male and female in India in 1976, 1986, 1996 and 2006? (June-2008)
- (A) Cluster sampling
- (B) Systematic sampling
- (C) Quota sampling
- (D) Stratified random sampling

- 66.** Which one of the following principles is not applicable to sampling? (June-2008)
- (A) Sample units must be clearly defined
 - (B) Sample units must be dependent on each other
 - (C) Same units of sample should be used throughout the study
 - (D) Sample units must be chosen in a systematic and objective manner
- 67.** If January 1st, 2007 is Monday, what was the day on 1st January 1995? (June-2008)
- (A) Sunday
 - (B) Monday
 - (C) Friday
 - (D) Saturday
- 68.** The research is always -(December-2008)
- (A) verifying the old knowledge
 - (B) exploring new knowledge
 - (C) filling the gap between knowledge
 - (D) all of these
- 69.** The research that applies the laws at the time of field study to draw more and more clear ideas about the problem is: (December-2008)
- (A) Applied research
 - (B) Action research
 - (C) Experimental research
 - (D) None of these
- 70.** When a research problem is related to heterogeneous population, the most suitable sampling method is: (December-2008)
- (A) Cluster Sampling
 - (B) Stratified Sampling
 - (C) Convenient Sampling
 - (D) Lottery Method
- 71.** Today, private and public organizations also apply psychology to problems of management and employee training, to supervision of personnel, to improving communication within the organization, to counseling employees and to alleviating industrial strife. The applied psychologists who do this work are sometimes called
- (A) Personnel Psychologists
 - (B) Organizational Psychologists
 - (C) Experimental Psychologists
 - (D) Social Psychologists
- 72.** A person who uses the particular psychotherapeutic techniques which originated with Sigmund Freud and his followers is called
- (A) A psychoanalyst
 - (B) A psychiatrist
 - (C) A child psychologist
 - (D) A clinical psychologist
- 73.** Finding the causes of behavior from a number of observations is called
- (A) Inductive reasoning
 - (B) Observational technique
 - (C) Deductive reasoning
 - (D) Introspection
- 74.** The clinical method is ordinarily used only when people come to psychologists with
- (A) Social problems
 - (B) Personal Problems
 - (C) Organizational problems
 - (D) Internal problems
- 75.** The process not needed in experimental research is: (December-2008)
- (A) Observation
 - (B) Manipulation and replication
 - (C) Controlling
 - (D) Reference collection

- 76.** A research problem is not feasible only when: (December-2008)
- (A) it is researchable
 - (B) it is new and adds something to knowledge
 - (C) it consists of independent and dependent variables
 - (D) it has utility and relevance
- 77.** How can the objectivity of the research be enhanced? (June-2009)
- (A) Through its impartiality
 - (B) Through its reliability
 - (C) Through its validity
 - (D) All of these
- 78.** Action-research is: (June-2009)
- (A) An applied research
 - (B) A research carried out to solve immediate problems
 - (C) A longitudinal research
 - (D) All the above
- 79.** The basis on which assumptions are formulated: (June-2009)
- (A) Cultural background of the country
 - (B) Universities
 - (C) Specific characteristics of the castes
 - (D) All of these
- 80.** The technique of regulating various variables in an experiment is called
- (A) Independent Variable
 - (B) Dependent variable
 - (C) Experimental control
 - (D) Controlled variable
- 81.** Psychologists with the Biological perspective try to relate behavior to functions of
- (A) Body
 - (B) Mind
 - (C) Soul
 - (D) Unconscious
- 82.** A little girl Leny pushed Bapula, her brother, off his tricycle. She learned to behave this way because the behavior paid off in the past, in other words, she learned to act aggressively in certain situations because she was rewarded for such behavior in the past. With which perspective, a psychologist can study this type of problem?
- (A) Biological Perspective
 - (B) Behavioral Perspective
 - (C) Cognitive Perspective
 - (D) Social Perspective
- 83.** The perspective which is concerned with characteristic changes that occur in people as they mature is known as
- (A) Developmental Perspective
 - (B) Biological Perspective
 - (C) Humanistic Perspective
 - (D) Psychoanalytic Perspective
- 84.** A key psychodynamic idea is that when unconscious impulses are unacceptable or when they make us anxious; to reduce anxiety, we use
- (A) Defense Mechanisms
 - (B) Super ego
 - (C) Instincts
 - (D) Dreams
- 85.** The distinction between a clinical psychologist and a psychiatrist is that
- (A) A clinical psychologist normally holds a Ph.D. or M.A. degree or Psy. D. (Doctor in Psychology) and a psychiatrist holds an MD degree
 - (B) A clinical psychologist holds a Ph.D. degree in Psychology and a psychiatrist holds both Psy. D. degree and Ph.D. degree
 - (C) A clinical psychologist holds a special degree in Psychology and a psychiatrist holds a Ph.D. degree in Psychology

- (D) A clinical psychologist has a special training in psychotherapy and a psychiatrist holds M.A. degree in Psychology
- 86.** The Subject "Psychology" was formally recognized in Germany in the year
 (A) 1789
 (B) 1668
 (C) 1879
 (D) 1897
- 87.** Which of the following is/are true about Expost Facto Study?
 (A) The investigators attempt to trace an effect which has already occurred to its probable causes
 (B) The effect becomes dependent variable
 (C) The investigators have no direct control over such variables
 (D) All of these
- 88.** The per capita income of India from 1950 to 1990 is four times. This study is
 (A) Social
 (B) Horizontal
 (C) Longitudinal
 (D) Factorial
- 89.** Which of the following is the most essential characteristic of a research worker?
 (A) Sympathy
 (B) Open mindedness
 (C) Patience
 (D) Emotional control
- 90.** Which of the following is classified in the category of the developmental research? (June-2009)
 (A) Philosophical research
 (B) Action research
 (C) Descriptive research
 (D) All the above
- 91.** We use Factorial Analysis: (June-2009)
 (A) To know the relationship between two variables
 (B) To test the Hypothesis
 (C) To know the difference between two variables
 (D) To know the difference among the many variables
- 92.** A null hypothesis is (December-2009)
 (A) when there is no difference between the variables
 (B) the same as research hypothesis
 (C) subjective in nature
 (D) when there is difference between the variables
- 93.** The research which is exploring new facts through the study of the past is called (December-2009)
 (A) Philosophical research
 (B) Historical research
 (C) Mythological research
 (D) Content analysis
- 94.** Action research is (December-2009)
 (A) An applied research
 (B) A research carried out to solve immediate problems
 (C) A longitudinal research
 (D) Simulative research
- 95.** The decline of the British Empire should have spelt the decline of English. This statement is a/an
 (A) fact
 (B) advice
 (C) opinion
 (D) prejudice
- 96.** To study the relationship of family size with income a researcher classifies his population into different income slabs and then takes a random sample from each

- slab. Which technique of sampling does he adopt?
- (A) Random Sampling
(B) Stratified Random Sampling
(C) Cluster Sampling
(D) Systematic Sampling
- 97.** Which of the following is the most read page of a thesis?
- (A) Title page
(B) Table of contents
(C) Abstract
(D) Research Design
- 98.** The historical research is different from experimental research in the process of
- (A) Replication
(B) Formulation of hypothesis
(C) Hypothesis testing
(D) All of the above
- 99.** To study Abnormal Psychology means, to study mainly the nature of
- (A) Conscious Mind
(B) Unconscious Mind
(C) Subconscious Mind
(D) Normal Mind
- 100.** Sigmund Freud is regarded as the father of
- (A) Psychoanalysis
(B) Behaviorism
(C) Functionalism
(D) Gestalt Psychology

2.15 Previous year questions

- 1.** In a Ph.D. thesis which one is the correct sequence for showing scheme of Chapterisation? [2016-August]
- (A) Survey of related studies, Introduction, Design of the study, Data-Analysis and interpretation, Conclusions and generalisations, suggested further study, References, Appendix
(B) Introduction, Design of study, Data Analysis and Interpretation, Generalizations, Conclusions and Survey of related studies and suggestions for further research, References and Appendix
(C) Introduction, Survey of related studies, Design of study, Data-presentation; analysis & Interpretation, Formulation of generalization & Conclusions, Suggestions for further research, References & Appendix
(D) Survey of related studies, References, Introduction, Design of study, Data analysis and interpretation, Conclusions and generalizations, Suggestions for further research, Appendix
- 2.** Which of the following is not the critical feature of qualitative research? [2016-August]
- (A) Actual settings are the direct source of data.
(B) Data take the forms of words or pictures.
(C) Seeking to establish relationships among measured social facts.
(D) Researcher becomes immersed in the situation, present or past related to the phenomena.
- 3.** A detailed description of methodology of research is required in [2016-August]
- (A) Thesis/Dissertation
(B) Symposium/Workshop
(C) Seminar paper/Articles
(D) Conference and Seminar Papers
- 4.** Research ethics has a direct connection more often with which stages of research ?

- (A) Defining and delimiting the scope of research.
- (B) Problem formulation and reporting of research findings.
- (C) Defining the population and deciding the sampling technique for research.
- (D) Deciding about statistical techniques and data analysis.
5. For advancing knowledge, the latest strategy used by mankind is [2016-August]
- (A) consulting an authority
- (B) deductive reasoning
- (C) scientific thinking
- (D) inductive reasoning
6. There are two sets given below, Set-I consists of methods of research and Set-II indicates their procedural characteristics. Match the two sets and choose your answer from the codes given below: [2016-August]

Set - I	Set - II
(Research method)	(Procedural Characteristics)
a. Experimental method	i. Interventions to ameliorate a given situation
b. Expost facto method	ii. Explaining patterns of behaviour in terms of meanings and their representations which people share.
c. Descriptive method	iii. Manipulating an independent variable in controlled conditions and measuring its effect on dependent variable.
d. Symbolic interactionism	iv. Depending on primary and secondary sources of data.
e. Action research	v. Obtaining information concerning the current status of phenomena.
	vi. Observing the effect on dependent variable and making probes into factors/-variables which explain it.
	vii. Exegetic analysis.

(A) $a - I, b - iii, c - iv, d - v, e - vii$

- (B) $a - iii, b - iv, c - v, d - vi, e - vii$
 (C) $a - i, b - ii, c - iii, d - iv, e - v$
 (D) $a - iii, b - vi, c - v, d - ii, e - i$
- 7.** In qualitative research paradigm, which of the following features may be considered critical? [2016-JULY]
 (A) Data collection with standardised research tools.
 (B) Sampling design with probability sample techniques.
 (C) Data collection with bottom-up empirical evidences.
 (D) Data gathering to take with top-down systematic evidences.
- 8.** From the following list of statements identify the set which has negative implications for research ethics : [2016-JULY]
 i) A researcher critically looks at the findings of another research.
 ii) Related studies are cited without proper references.
 iii) Research findings are made the basis for policy making.
 iv) Conduct of practitioner is screened in terms of reported research evidences.
 v) A research study is replicated with a view to verify the evidences from other researches.
 vi) Both policy making and policy implementing processes are regulated in terms of preliminary studies.
- Codes:
 (A) (i), (ii) and (iii)
 (B) (ii), (iii) and (iv)
 (C) (ii), (iv) and (vi)
 (D) (i), (iii) and (v)
- 9.** In a research on the effect of child-rearing practices on stress-proneness of children in competing school projects, the hypothesis formulated is that child rearing practices do influence stress-proneness. At the data-analysis stage a null hypothesis is advanced to find out the tenability of research hypothesis. On the basis of the evidence available, the null hypothesis is rejected at 0.01 level of significance. What decision may be warranted in respect of the research hypothesis? [2016-JULY]
 (A) The research hypothesis will also be rejected.
 (B) The research hypothesis will be accepted.
 (C) Both the research hypothesis and the null hypothesis will be rejected.
 (D) No decision can be taken in respect of the research hypothesis.
- 10.** A research intends to explore the effect of possible factors for the organization of effective mid-day meal interventions. Which research method will be most appropriate for this study? [2016-JULY]
 (A) Historical method
 (B) Descriptive survey method
 (C) Experimental method
 (D) Ex-post-facto method
- 11.** Which of the following is an initial mandatory requirement for pursuing research? [2016-JULY]
 (A) Developing a research design
 (B) Formulating a research question
 (C) Deciding about the data analysis procedure
 (D) Formulating a research hypothesis
- 12.** The format of thesis writing is the same as in [2016-JULY]
 (A) preparation of a research paper/article
 (B) writing of seminar presentation
 (C) a research dissertation
 (D) presenting a workshop/conference paper

- 13.** Which of the following statements is not true in the context of participatory research? [2015-DECEMBER]
- (A) It recognizes knowledge as power.
 (B) It emphasises on people as experts.
 (C) It is a collective process of enquiry.
 (D) Its sole purpose is production of knowledge.
- 14.** Which of the following statements is true in the context of the testing of a hypothesis? [2015-DECEMBER]
- (A) It is only the alternative hypothesis, that can be tested.
 (B) It is only the null hypothesis, that can be tested.
 (C) Both, the alternative and the null hypotheses can be tested.
 (D) Both, the alternative and the null hypotheses cannot be tested.
- 15.** Which of the following are the basic rules of APA style of referencing format? [2015-DECEMBER]
- a) Italicize titles of shorter works such as journal articles or essays
 b) Invert authors names (last name first)
 c) Italicize titles of longer works such as books and journals
 d) Alphabetically index reference list
- Select the correct answer from the codes given below:
- (A) (a) and (b)
 (B) (b), (c) and (d)
 (C) (c) and (d)
 (D) (a), (b), (c) and (d)
- 16.** Which of the following are the characteristics of a seminar? [2015-DECEMBER]
- a) It is a form of academic instruction.
 b) It involves questioning, discussion and debates.
 c) It involves large groups of individuals.
 d) It needs involvement of skilled persons.
- Select the correct answer from the codes given below
- (A) (b) and (c)
 (B) (b) and (d)
 (C) (b), (c) and (d)
 (D) (a), (b) and (d)
- 17.** A researcher is interested in studying the prospects of a particular political party in an urban area. What tool should he prefer for the study? [2015-DECEMBER]
- (A) Rating scale
 (B) Interview
 (C) Questionnaire
 (D) Schedule
- 18.** Ethical norms in research do not involve guidelines for: [2015-DECEMBER]
- (A) Thesis format
 (B) Copyright
 (C) Patenting policy
 (D) Data sharing policies
- 19.** Consider the argument given below: [2015-DECEMBER] Pre - employment testing of teachers is quite fair because doctors, architects and engineers who are now employed had to face such a testing. What type of argument it is?
- (A) Deductive
 (B) Analogical
 (C) Psychological
 (D) Biological
- 20.** A definition that has a meaning that is deliberately assigned to some symbol is called: [2015-DECEMBER]
- (A) Lexical
 (B) Precising
 (C) Stipulative
 (D) Persuasive

- 21.** A Cluster of propositions with a structure that exhibits some inference is called [2015-DECEMBER]
- (A) An inference
(B) An argument
(C) An explanation
(D) A valid argument
- 22.** Which of the following statements regarding the meaning of research are correct [2015-JUNE]
- a) Research refers to a series of systematic activity or activities undertaken to find out the solution of a problem
b) It is a systematic, logical and an unbiased process wherein verification of hypothesis data analysis, interpretation and formation of principles can be done
c) It is an intellectual enquiry or quest towards truth
d) It leads to enhancement of knowledge
- (A) (a), (b) and (c)
(B) (b), (c) and (d)
(C) (a), (c) and (d)
(D) (a), (b), (c) and (d)
- 23.** A good thesis writing should involve [2015-JUNE]
- a) reduction of punctuation and grammatical errors to a minimum
b) careful checking of references
c) consistency in the way the thesis is written
d) a clear and well written abstract
- (A) (a), (b), (c) and (d)
(B) (a), (b) and (c)
(C) (a), (b) and (d)
(D) (b), (c) and (d)
- 24.** Jean Piaget gave a theory of cognitive development of humans on the basis of his [2015-JUNE]
- (A) Fundamental research e basis of his
(B) applied research
(C) Action research
(D) Evaluation Research
- 25.** "Male and female students perform equally well in a numerical aptitude test." [2015-JUNE] This statement indicates a
- (A) research hypothesis
(B) null hypothesis
(C) directional hypothesis
(D) statistical hypothesis
- 26.** The conclusions/findings of which type of research cannot be generalized to other situations [2015-JUNE]
- (A) Historical research
(B) Descriptive Research
(C) Experimental Research
(D) Causal Comparative Research
- 27.** Which of the following steps are required to design a questionnaire [2015-JUNE]
- a) Writing primary and secondary aims of the study
b) Review of the current literature
c) Prepare a draft of questionnaire
d) Revision of the draft
- (A) (a), (b) and (c)
(B) (a), (c) and (d)
(C) (b), (c) and (d)
(D) (a), (b), (c) and (d)
- 28.** When the purpose of a definition is to explain the use or to eliminate ambiguity the definition is called [2015-JUNE]
- (A) Stipulative
(B) Theoretical
(C) Lexical
(D) Persuasive

- 29.** The core elements of dissertation are [2014-DECEMBER]
(A) Introduction; Data Collection; Data Analysis; Conclusions and Recommendations
(B) Executive Summary; Literature review; Data gathered; Conclusions; Bibliography
(C) Research Plan; Research Data; Analysis; References
(D) Introduction; Literature Review; Research Methodology; Results; Discussion and Conclusion
- 30.** What is a Research Design? [2014-DECEMBER]
(A) A way of conducting research that is not grounded in theory.
(B) The choice between using qualitative or quantitative methods.
(C) The style in which you present your research findings e.g. a graph.
(D) A framework for every stage of the collection and analysis of data.
- 31.** Sampling Cases means [2014-DECEMBER]
(A) Sampling using a sampling frame
(B) Identifying people who are suitable for research
(C) Literally the researchers brief case
(D) Sampling of people, newspapers, television programmes etc.
- 32.** The frequency distribution of a research data which is symmetrical in shape similar to a normal distribution but center peak is much higher, is [2014-DECEMBER]
(A) Skewed
(B) Mesokurtic
(C) Leptokurtic
(D) Platykurtic
- 33.** When planning to do a social research, it is better to [2014-DECEMBER]
(A) Approach the topic with an open mind
(B) Do a pilot study before getting stuck into it
(C) Be familiar with literature on the topic
(D) Forget about theory because this is a very practical
- 34.** When academicians are called to deliver lecture or presentations to an audience on certain topics or a set of topics of educational nature, it is called [2014-DECEMBER]
(A) Training Program
(B) Seminar
(C) Workshop
(D) Symposium
- 35.** In a thesis, figures and tables are included in [2014-JUNE]
(A) The appendix
(B) A separate chapter
(C) The concluding chapter
(D) The text itself
- 36.** A thesis statement is [2014-JUNE]
(A) An observation
(B) A fact
(C) An assertion
(D) A discussion
- 37.** The research approach of Max Weber to understand how people create meanings in natural settings is identified as [2014-JUNE]
(A) Positive paradigm
(B) Critical paradigm
(C) Natural paradigm
(D) Interpretative paradigm

- 38.** Which one of the following is a non probability sampling? [2014-JUNE]
(A) Simple Random
(B) Purposive
(C) Systematic
(D) Stratified
- 39.** Identify the category of evaluation that assesses the learning progress to provide continuous feedback to the students during instruction. [2014-JUNE]
(A) Placement
(B) Diagnostic
(C) Formative
(D) Summative
- 40.** The research stream of immediate application is [2014-JUNE]
(A) Conceptual research
(B) Action research
(C) Fundamental research
(D) Empirical research
- 41.** Media is known as [2014-DECEMBER]
(A) First Estate
(B) Second Estate
(C) Third Estate
(D) Fourth Estate
- 42.** The population information is called parameter while the corresponding sample information is known as [2013-DECEMBER]
(A) Universe
(B) Inference
(C) Sampling design
(D) Statistics
- 43.** The sequential operations in scientific research are [2013-DECEMBER]
(A) Co-variation, Elimination of Spurious Relations, Generalisation, Theorisation
(B) Generalisation, Co-variation, Theorisation, Elimination of Spurious Relations
(C) Theorisation, Generalisation, Elimination of Spurious Relations, Co-variation
(D) Elimination of Spurious Relations, Theorisation, Generalisation, Co-variation.
- 44.** In sampling, the lottery method is used for [2013-DECEMBER]
(A) Interpretation
(B) Theorisation
(C) Conceptualisation
(D) Randomisation
- 45.** Which is the main objective of research? [2013-DECEMBER]
(A) To review the literature
(B) To summarize what is already known
(C) To get an academic degree
(D) To discover new facts or to make fresh interpretation of known facts
- 46.** Sampling error decreases with the [2013-DECEMBER]
(A) Decrease in sample size
(B) Increase in sample size
(C) Process of randomization
(D) Process of analysis
- 47.** The Principles of fundamental research are used in [2013-DECEMBER]
(A) Action research
(B) Applied research
(C) Philosophical research
(D) Historical research
- 48.** Which one of the following is not a type of experimental method? [2013-SEPTEMBER]
(A) Single group experiment
(B) Residual group experiment
(C) Parallel group experiment
(D) Rational group experiment

- 49.** Which one of the following is not a non-parametric test ? [2013-SEPTEMBER]
 (A) t-test
 (B) Sign test
 (C) Chi-square test
 (D) Run test
- 50.** Read the following statements one labelled as Assertion
 (A) and the other as Reason (R) : [2013-SEPTEMBER]
 Assertion (A) : Qualitative research in India has a long way to go to reach international standards.
 Reason (R) : Because the funding agencies do not support qualitative research in academic institutions.
 Find the correct answer from the codes given below :
 (B) Both (A) and (R) are true and (R) is the correct explanation of (A) .
 (C) Both (A) and (R) are true, but (R) is not the correct explanation of (A) .
 (D) Both (A) and (R) are false.
 (E) (A) is true, but (R) is false
- 51.** Identify the correct sequence of research steps : [2013-SEPTEMBER]
 (A) Selection of topic, review of literature, data collection, interpretation of findings
 (B) Review of literature, selection of topic, data collection, interpretation of findings
 (C) Selection of topic, data collection, review of literature, interpretation of findings
 (D) Selection of topic, review of literature, interpretation of findings, data collection
- 52.** Deconstruction is a popular method of research in [2013-SEPTEMBER]
 (A) Basic Science
 (B) Applied Science
 (C) Social Science
 (D) Literature
- 53.** With which one of the following techniques communality is associated? [2013-SEPTEMBER]
 (A) Univariate analysis
 (B) Factor analysis
 (C) Case studies
 (D) SWOT analysis
- 54.** The variable which impacts the relationship between an independent variable and a dependent variable is known as [2013-SEPTEMBER]
 (A) antecedent variable
 (B) precedent variable
 (C) predictor variable
 (D) control variable
- 55.** Which one of the following is a non-probability sampling method? [2013-SEPTEMBER]
 (A) Simple Random Sampling
 (B) Stratified Sampling
 (C) Cluster Sampling
 (D) Quota Sampling
- 56.** A research paper [2013-JUNE]
 (A) is a compilation of information on a topic.
 (B) contains original research as deemed by the author.
 (C) contains peer-reviewed original research or evaluation of research conducted by others.
 (D) can be published in more than one journal.
- 57.** Which one of the following belongs to the category of good research ethics? [2013-JUNE]
 (A) Publishing the same paper in two research journals without telling the editors.
 (B) Conducting a review of the literature that acknowledges the contributions of

- other people in the relevant field or relevant prior work.
- (C) Trimming outliers from a data set without discussing your reasons in a research paper.
- (D) Including a colleague as an author on a research paper in return for a favor even though the colleague did not make a serious contribution to the paper.
- 58.** Which of the following sampling methods is not based on probability? [2013-JUNE]
- (A) Simple Random Sampling
- (B) Stratified Sampling
- (C) Quota Sampling
- (D) Cluster Sampling
- 59.** Which one of the following references is written as per Modern Language Association (MLA) format? [2013-JUNE]
- (A) Hall, Donald. Fundamentals of Electronics, New Delhi : Prentice Hall of India, 2005
- (B) Hall, Donald. Fundamentals of Electronics, New Delhi : Prentice Hall of India, 2005
- (C) Hall, Donald. Fundamentals of Electronics, New Delhi : Prentice Hall of India, 2005
- (D) Hall, Donald. Fundamentals of Electronics, New Delhi : Prentice Hall of India, 2005
- 60.** A workshop is [2013-JUNE]
- (A) a conference for discussion on a topic.
- (B) a meeting for discussion on a topic.
- (C) a class at a college or a university in which a teacher and the students discuss a topic.
- (D) a brief intensive course for a small group emphasizing the development of a skill or technique for solving a specific problem.
- 61.** A working hypothesis is [2013-JUNE]
- (A) a proven hypothesis for an argument.
- (B) not required to be tested.
- (C) a provisionally accepted hypothesis for further research.
- (D) a scientific theory.
- 62.** Which one of the following is an indication of the quality of a research journal? [2012-DECEMBER]
- (A) Impact factor
- (B) h-index
- (C) g-index
- (D) i10-index
- 63.** Good research ethics means [2012-DECEMBER]
- (A) Not disclosing the holdings of shares/stocks in a company that sponsors your research.
- (B) Assigning a particular research problem to one Ph.D./research student only.
- (C) Discussing with your colleagues confidential data from a research paper that you are reviewing for an academic journal.
- (D) Submitting the same research manuscript for publishing in more than one journal.
- 64.** Which of the following sampling methods is based on probability? [2012-DECEMBER]
- (A) Convenience sampling
- (B) Quota sampling
- (C) Judgement sampling
- (D) Stratified sampling
- 65.** Which one of the following references is written according to American Psychological Association (APA) format? [2012-DECEMBER]
- (A) Sharma, V. (2010). Fundamentals of Computer Science. New Delhi : Tata McGraw Hill

- (B) Sharma, V. 2010. Fundamentals of Computer Science. New Delhi : Tata Mc-Graw Hill
- (C) Sharma.V. 2010. Fundamentals of Computer Science, New Delhi : Tata Mc-Graw Hill
- (D) Sharma, V. (2010), Fundamentals of Computer Science, New Delhi : Tata Mc-Graw Hill
- 66.** Arrange the following steps of research in correct sequence : [2012-DECEMBER]
- 1) Identification of research problem
 - 2) Listing of research objectives
 - 3) Collection of data
 - 4) Methodology
 - 5) Data analysis
 - 6) Results and discussion
- (A) 123456
- (B) 124356
- (C) 213456
- (D) 214356
- 67.** Identify the incorrect statement: [2012-DECEMBER]
- (A) A hypothesis is made on the basis of limited evidence as a starting point for further investigations.
- (B) A hypothesis is a basis for reasoning without any assumption of its truth.
- (C) Hypothesis is a proposed explanation for a phenomenon.
- (D) Scientific hypothesis is a scientific theory.
- 68.** The research that aims at immediate application is [2012-JUNE]
- (A) Action Research
- (B) Empirical Research
- (C) Conceptual Research
- (D) Fundamental Research
- 69.** When two or more successive footnotes refer to the same work which one of the following expressions is used ? [2012-JUNE]
- (A) ibid
- (B) et.al
- (C) op.cit :
- (D) loc.cit.
- 70.** Nine year olds are taller than seven year olds. This is an example of a reference drawn from [2012-JUNE]
- (A) Vertical study
- (B) Cross-sectional study
- (C) Time series study
- (D) Experimental study
- 71.** Conferences are meant for [2012-JUNE]
- (A) Multiple target groups
- (B) Group discussions
- (C) Show-casing new Research
- (D) All the above
- 72.** Ex Post Facto research means [2012-JUNE]
- (A) The research is carried out after the incident
- (B) The research is carried out prior to the incident
- (C) The research is carried out along with the happening of an incident.
- (D) The research is carried out keeping in mind the possibilities of an incident.
- 73.** Research ethics do not include [2012-JUNE]
- (A) Honesty
- (B) Subjectivity
- (C) Integrity
- (D) Objectivity
- 74.** A hypothesis is a [2011-DECEMBER]
- (A) law
- (B) canon
- (C) postulate
- (D) supposition

- 75.** Suppose you want to investigate the working efficiency of nationalized bank in India, which one of the following would you follow? [2011-DECEMBER]
(A) Area Sampling
(B) Multi-stage Sampling
(C) Sequential Sampling
(D) Quota Sampling
- 76.** Controlled group condition is applied in [2011-DECEMBER]
(A) Survey Research
(B) Historical Research
(C) Experimental Research
(D) Descriptive Research
- 77.** Workshops are meant for [2011-DECEMBER]
(A) giving lectures
(B) multiple target groups
(C) showcase new theories
(D) hands on training/experience
- 78.** Which one of the following is a research tool? [2011-DECEMBER]
(A) Graph
(B) Illustration
(C) Questionnaire
(D) Diagram
- 79.** Research is not considered ethical if it [2011-DECEMBER]
(A) tries to prove a particular point.
(B) does not ensure privacy and anonymity of the respondent.
(C) does not investigate the data scientifically.
(D) is not of a very high standard.
- 80.** A research paper is a brief report of research work based on [2011-JUNE]
(A) Primary Data only
(B) Secondary Data only
(C) Both Primary and Secondary Data
(D) None of the above
- 81.** Newton gave three basic laws of motion. This research is categorized as [2011-JUNE]
(A) Descriptive Research
(B) Sample Survey
(C) Fundamental Research
(D) Applied Research
- 82.** A group of experts in a specific area of knowledge assembled at a place and prepared a syllabus for a new course. The process may be termed as [2011-JUNE]
(A) Seminar
(B) Workshop
(C) Conference
(D) Symposium
- 83.** In the process of conducting research Formulation of Hypothesis is followed by [2011-JUNE]
(A) Statement of Objectives
(B) Analysis of Data
(C) Selection of Research Tools
(D) Collection of Data
- 84.** Which one of the following methods is best suited for mapping the distribution of different crops as provided in the standard classification of crops in India ? [2011-JUNE]
(A) Pie diagram
(B) Chorochromatic technique
(C) Isopleth technique
(D) Dot method
- 85.** Which one of the following does not come under the methods of data classification ? [2011-JUNE]
(A) Qualitative
(B) Normative
(C) Spatial
(D) Quantitative

- 86.** Which one of the following is not a source of data ? [2011-JUNE]
 (A) Administrative records
 (B) Population census
 (C) GIS
 (D) Sample survey
- 87.** The essential qualities of a researcher are [2011-JUNE]
 (A) spirit of free enquiry
 (B) reliance on observation and evidence
 (C) systematization or theorizing of knowledge
 (D) all the above
- 88.** Research is conducted to [2011-JUNE]
 I) Generate new knowledge
 II) Not to develop a theory
 III) Obtain research degree
 IV) Reinterpret existing knowledge
 Which of the above are correct ?
 (A) I, III & II
 (B) III, II & IV
 (C) II, I & III
 (D) I, III & IV
- 89.** Which of the following variables cannot be expressed in quantitative terms? [2010-DECEMBER]
 (A) Socio-economic Status
 (B) Marital Status
 (C) Numerical Aptitude
 (D) Professional Attitude
- 90.** A doctor studies the relative effectiveness of two drugs of dengue fever. His research would be classified as [2010-DECEMBER]
 (A) Descriptive Survey
 (B) Experimental Research
 (C) Case Study
 (D) Ethnography
- 91.** The term phenomenology is associated with the process of [2010-DECEMBER]
 (A) Qualitative Research
 (B) Analysis of Variance
 (C) Correlational Study
 (D) Probability Sampling
- 92.** The Sociogram technique is used to study [2010-DECEMBER]
 (A) Vocational Interest
 (B) Professional Competence
 (C) Human Relations
 (D) Achievement Motivation
- 93.** Which one of the following methods serve to measure correlation between two variables? [2010-DECEMBER]
 (A) Scatter Diagram
 (B) Frequency Distribution
 (C) Two-way table
 (D) Coefficient of Rank Correlation
- 94.** Which of the following phrases is not relevant to describe the meaning of research as a process? [2010-DECEMBER]
 (A) Systematic Activity
 (B) Objective Observation
 (C) Trial and Error
 (D) Problem Solving
- 95.** Which of the following is not an example of a continuous variable? [2010-DECEMBER]
 (A) Family size
 (B) Intelligence
 (C) Height
 (D) Attitude
- 96.** Action research means [2010-JUNE]
 (A) A longitudinal research
 (B) An applied research
 (C) A research initiated to solve an immediate problem
 (D) A research with socioeconomic objective

- 97.** Research is [2010-JUNE]
(A) Searching again and again
(B) Finding solution to any problem
(C) Working in a scientific way to search for truth of any problem
(D) None of the above
- 98.** A common test in research demands much priority on [2010-JUNE]
(A) Reliability
(B) Useability
(C) Objectivity
(D) All of the above
- 99.** Which of the following is the first step in starting the research process? [2010-JUNE]
(A) Searching sources of information to locate problem.
(B) Survey of related literature
(C) Identification of problem
(D) Searching for solutions to the problem
- 100.** If a researcher conducts a research on finding out which administrative style contributes more to institutional effectiveness? This will be an example of [2010-JUNE]
(A) Basic Research
(B) Action Research
(C) Applied Research
(D) None of the above
- 101.** Normal Probability Curve should be [2010-JUNE]
(A) Positively skewed
(B) Negatively skewed
(C) Leptokurtic skewed
(D) Zero skewed
- 102.** Which one of the following is the oldest Archival source of data in India? [2010-JUNE]
(A) National Sample Surveys
(B) Agricultural Statistics
(C) Census
(D) Vital Statistics
- 103.** In a large random data set following normal distribution, the ratio (%) of number of data points which are in the range of (mean standard deviation) to the total number of data points, is [2010-JUNE]
(A) 50%
(B) 67%
(C) 97%
(D) 47%
- 104.** A null hypothesis is [2009-DECEMBER]
(A) when there is no difference between the variables
(B) the same as research hypothesis
(C) subjective in nature
(D) when there is difference between the variables
- 105.** The research which is exploring new facts through the study of the past is called [2009-DECEMBER]
(A) Philosophical research
(B) Historical research
(C) Mythological research
(D) Content analysis
- 106.** Action research is [2009-DECEMBER]
(A) An applied research
(B) A research carried out to solve immediate problems
(C) A longitudinal research
(D) Simulative research
- 107.** The process not needed in Experimental Researches is [2009-DECEMBER]
(A) Observation
(B) Manipulation
(C) Controlling
(D) Content Analysis

- 108.** Manipulation is always a part of [2009-DECEMBER]
 (A) Historical research
 (B) Fundamental research
 (C) Descriptive research
 (D) Experimental research
- 109.** Which correlation co-efficient best explains the relationship between creativity and intelligence? [2009-DECEMBER]
 (A) 1.00
 (B) 0.6
 (C) 0.5
 (D) 0.3
- 110.** How can the objectivity of the research be enhanced? [2009-JUNE]
 (A) Through its impartiality
 (B) Through its reliability
 (C) Through its validity
 (D) All of these
- 111.** Action-research is:[2009-JUNE]
 (A) An applied research
 (B) A research carried out to solve immediate problems
 (C) A longitudinal research
 (D) All the above
- 112.** The basis on which assumptions are formulated:[2009-JUNE]
 (A) Cultural background of the country
 (B) Universities
 (C) Specific characteristics of the castes
 (D) All of these
- 113.** Which of the following is classified in the category of the developmental research?[2009-JUNE]
 (A) Philosophical research
 (B) Action research
 (C) Descriptive research
 (D) All the above
- 114.** We use Factorial Analysis:[2009-JUNE]
 (A) To know the relationship between two variables
 (B) To test the Hypothesis
 (C) To know the difference between two variables
 (D) To know the difference among the many variables
- 115.** The research is always [2008-DECEMBER]
 (A) verifying the old knowledge
 (B) exploring new knowledge
 (C) filling the gap between knowledge
 (D) all of these
- 116.** The research that applies the laws at the time of field study to draw more and more clear ideas about the problem is:[2008-DECEMBER]
 (A) Applied research
 (B) Action research
 (C) Experimental research
 (D) None of these
- 117.** When a research problem is related to heterogeneous population, the most suitable sampling method is:[2008-DECEMBER]
 (A) Cluster Sampling
 (B) Stratified Sampling
 (C) Convenient Sampling
 (D) Lottery Method
- 118.** The process not needed in experimental research is:[2008-DECEMBER]
 (A) Observation
 (B) Manipulation and replication
 (C) Controlling
 (D) Reference collection

- 119.** A research problem is not feasible only when:[2008-DECEMBER]
(A) it is researchable
(B) it is new and adds something to knowledge
(C) it consists of independent and dependent variables
(D) it has utility and relevance
- 120.** Research problem is selected from the stand point of: [2008-JUNE]
(A) Researcher's interest
(B) Financial support
(C) Social relevance
(D) Availability of relevant literature
- 121.** Which one is called non-probability sampling?[2008-JUNE]
(A) Cluster sampling
(B) Quota sampling
(C) Systematic sampling
(D) Stratified random sampling
- 122.** Formulation of hypothesis may NOT be required in:[2008-JUNE]
(A) Survey method
(B) Historical studies
(C) Experimental studies
(D) Normative studies
- 123.** Field-work based research is classified as:[2008-JUNE]
(A) Empirical
(B) Historical
(C) Experimental
(D) Biographical
- 124.** Which of the following sampling method is appropriate to study the prevalence of AIDS amongst male and female in India in 1976, 1986, 1996 and 2006? [2008-JUNE]
(A) Cluster sampling
(B) Systematic sampling
(C) Quota sampling
(D) Stratified random sampling
- 125.** A statistical measure based upon the entire population is called parameter while measure based upon a sample is known as:[2008-JUNE]
(A) Sample parameter
(B) Inference
(C) Statistics
(D) None of these
- 126.** The importance of the correlation coefficient lies in the fact that:[2008-JUNE]
(A) There is a linear relationship between the correlated variables.
(B) It is one of the most valid measure of statistics.
(C) It allows one to determine the degree or strength of the association between two variables.
(D) It is a non-parametric method of statistical analysis.
- 127.** The F-test:[2008-JUNE]
(A) is essentially a two tailed test.
(B) is essentially a one tailed test.
(C) can be one tailed as well as two tailed depending on the hypothesis.
(D) can never be a one tailed test.
- 128.** Which one of the following is the most comprehensive source of population data?[2008-JUNE]
(A) National Family Health Surveys
(B) National Sample Surveys
(C) Census
(D) Demographic Health Surveys
- 129.** Which one of the following principles is not applicable to sampling?[2008-JUNE]
(A) Sample units must be clearly defined
(B) Sample units must be dependent on each other

- (C) Same units of sample should be used throughout the study
- (D) Sample units must be chosen in a systematic and objective manner
- 130.** Generalised conclusion on the basis of a sample is technically known as: [2007-DECEMBER]
- (A) Data analysis and interpretation
- (B) Parameter inference
- (C) Statistical inference
- (D) All of the above
- 131.** The experimental study is based on:[2007-DECEMBER]
- (A) The manipulation of variables
- (B) Conceptual parameters
- (C) Replication of research
- (D) Survey of literature
- 132.** The main characteristic of scientific research is:[2007-DECEMBER]
- (A) empirical
- (B) theoretical
- (C) experimental
- (D) all of the above
- 133.** Authenticity of a research finding is its:[2007-DECEMBER]
- (A) Originality
- (B) Validity
- (C) Objectivity
- (D) All of the above
- 134.** Which technique is generally followed when the population is finite?[2007-DECEMBER]
- (A) Area Sampling Technique
- (B) Purposive Sampling Technique
- (C) Systematic Sampling Technique
- (D) None of the above
- 135.** To test null hypothesis, a researcher uses [2007-JUNE]
- (A) t test
- (B) ANOVA
- (C) X²
- (D) factorial analysis
- 136.** A research problem is feasible only when [2007-JUNE]
- (A) it has utility and relevance
- (B) it is researchable
- (C) it is new and adds something to knowledge
- (D) all the above
- 137.** Bibliography given in a research report [2007-JUNE]
- (A) shows vast knowledge of the researcher
- (B) helps those interested in further research
- (C) has no relevance to research
- (D) all the above
- 138.** Fundamental research reflects the ability to [2007-JUNE]
- (A) Synthesize new ideals
- (B) Expound new principles
- (C) Evaluate the existing material concerning research
- (D) Study the existing literature regarding various topics
- 139.** The study in which the investigators attempt to trace an effect is known as [2007-JUNE]
- (A) Survey Research
- (B) 'Ex-post Facto' Research
- (C) Historical Research
- (D) Summative Research
- 140.** A ratio represents the relation between [2007-JUNE]
- (A) Part and Part

- (B) Part and Whole
(C) Whole and Whole
(D) All of the above
- 141.** Out of four numbers, the average of the first three numbers is thrice the fourth number. If the average of the four numbers is 5, the fourth number is [2007-JUNE]
(A) 4.5
(B) 5
(C) 2
(D) 4
- 142.** Circle graphs are used to show [2007-JUNE]
(A) How various sections share in the whole?
(B) How various parts are related to the whole?
(C) How one whole is related to other wholes
(D) How one part is related to other parts?
- 143.** Which of the following methods will you choose to prepare choropleth map of India showing urban density of population [2007-JUNE]
(A) Quartiles
(B) Quintiles
(C) Mean and SD
(D) Break - point
- 144.** Which of the following methods is best suited to show on a map the types of crops being grown in a region? [2007-JUNE]
(A) Choropleth
(B) Chorochromatic
(C) Choroschematic
(D) Isopleth
- 145.** Research can be conducted by a person who: [2006-DECEMBER]
(A) has studied research methodology
(B) holds a postgraduate degree
(C) possesses thinking and reasoning ability
(D) is a hard worker
- 146.** Which of the following statements is correct? [2006-DECEMBER]
(A) Objectives of research are stated in first chapter of the thesis
(B) Researcher must possess analytical ability
(C) Variability is the source of problem
(D) All the above
- 147.** Which of the following is not the Method of Research? [2006-DECEMBER]
(A) Observation
(B) Historical
(C) Survey
(D) Philosophical
- 148.** Research can be classified as: [2006-DECEMBER]
(A) Basic, Applied and Action Research
(B) Quantitative and Qualitative Research
(C) Philosophical, Historical, Survey and Experimental Research
(D) All the above
- 149.** The first step of research is: [2006-DECEMBER]
(A) Selecting a problem
(B) Searching a problem
(C) Finding a problem
(D) Identifying a problem
- 150.** Which of the following options are the main tasks of research in modern society? [2006-JUNE]
I) to keep pace with the advancement in knowledge.
II) to discover new things.
III) to write a critique on the earlier writings.

IV) to systematically examine and critically analyse the investigations/sources with objectivity.

- (A) IV, II and I
 (B) I, II and III
 (C) I and III
 (D) II, III and IV

151. Match List-I (Interviews) with List-II (Meaning) and select the correct answer from the code given below:[2006-JUNE]

List - I (Interviews)	List - II (Meaning)
(a) structured interviews	(i) greater flexibility approach
(b) Unstructured interviews	(ii) attention on the questions to be answered
(c) Focused interviews & (iii) individual life experience	
(d) Clinical interviews	(iv) Pre determined question
	(v) non-directive

- (A) $a - (iv), b - (i), c - (ii), d - (iii)$
 (B) $a - (ii), b - (iv), c - (i), d - (iii)$
 (C) $a - (v), b - (ii), c - (iv), d - (i)$
 (D) $a - (i), b - (iii), c - (v), d - (iv)$

152. What do you consider as the main aim of inter disciplinary research?[2006-JUNE]

- (A) To bring out holistic approach to research.
 (B) To reduce the emphasis of single subject in research domain.
 (C) To over simplify the problem of research.
 (D) To create a new trend in research methodology.

153. One of the aims of the scientific method in research is to:[2006-JUNE]

- (A) improve data interpretation
 (B) eliminate spurious relations
 (C) confirm triangulation
 (D) introduce new variables

154. The depth of any research can be judged by:[2006-JUNE]

- (A) title of the research.
 (B) objectives of the research.
 (C) total expenditure on the research.
 (D) duration of the research.

155. One of the following is not a quality of researcher: [2005-DECEMBER]

- (A) Unison with that of which he is in search
 (B) He must be of alert mind
 (C) Keeness in enquiry
 (D) His assertion to outstrip the evidence

156. A satisfactory statistical quantitative method should not possess one of the following qualities[2005-DECEMBER]

- (A) Appropriateness
 (B) Measurability
 (C) Comparability
 (D) Flexibility

157. Books and records are the primary sources of data in:[2005-DECEMBER]

- (A) historical research
 (B) participatory research
 (C) clinical research
 (D) laboratory research

158. Which of the following statement is correct?[2005-DECEMBER]

- (A) objectives should be pin-pointed
 (B) objectives can be written in statement or question form
 (C) another word for problem is variable
 (D) all the above

- 159.** The important pre-requisites of a researcher in sciences, social sciences and humanities are [2005-DECEMBER]
 (A) laboratory skills, records, supervisor, topic
 (B) Supervisor, topic, critical analysis, patience
 (C) archives, supervisor, topic, flexibility in thinking
 (D) topic, supervisor, good temperament, pre-conceived notions
- 160.** A college wants to give training in use of Statistical Package for Social Sciences (SPSS) to researchers. For this the college should organize: [2004-DECEMBER]
 (A) Conference
 (B) Seminar
 (C) Workshop
 (D) Lecture
- 161.** Which of the following is NOT the characteristic of a research? [2004-DECEMBER]
 (A) Research is systematic
 (B) Research is not a process
 (C) Research is problem oriented
 (D) Research is not passive
- 162.** Which of the following statement is correct? [2004-DECEMBER]
 (A) Discoveries are researches
 (B) Researches lead to discovery

- (C) Invention and Research are related
 (D) None of the above

- 163.** Which of the following statement is correct? [2004-DECEMBER]
 (A) In research, objectives can be worded in question form
 (B) In research, objectives can be worded in statement form
 (C) Objectives are to be stated in Chapter I of the Thesis
 (D) All the above
- 164.** Match List A with List B and choose the correct answer from the code given below: [2004-DECEMBER]

List A	List B
(a) Historical Method	(i) Past events
(b) Survey Method	(ii) Vision
(c) Philosophical Method	(iii) Present events
(d) Experimental Method	(iv) Exceptional cases
	(v) Future action

- (A) $a - (i), b - (iii), c - (ii), d - (v)$
 (B) $a - (i), b - (ii), c - (iv), d - (v)$
 (C) $a - (i), b - (iv), c - (ii), d - (v)$
 (D) $a - (i), b - (ii), c - (iii), d - (iv)$

3. Communication

The English word communication has come from a Latin noun communis and the Latin verb communicare, which means to make common, sharing and not just sending messages. The term communication has been rigorously defined by different communication expert as follows

- **Oxford dictionary:** The transfer or convening of meaning
- **Claude Shannon:** One mind effecting another
- **L.A.Richards:** It is the exchange of meaning between individuals through a common system of symbols
- **Wilbur Schramm:** The mechanism through which you mend relations exist and develop

In other words, we can simply describe, communication is the interchange of information between two or more persons. One might think that communication is only limited to the art of speaking or writing, but it is not true. Communication also covers someone's body language, personal manners and the way of their style and effect, any gesture visible to someone's eyes , or audible in someone's ear.

3.1 Definition and meaning of computation

Communication is crucial for existence of human behaviour. Some sociologist define communication as "the mechanism through which human relations exist and develop". According to the American Society of Training Directors, a good communication is "the interchange of thought or information to bring about mutual understanding and confidence or good human relations". Mary Ellen Guffey defines communication as "the transmission of information and meaning from one individual or group to another". It should be noted that communication is anything which make a message meaningful to the one being communicated with, Communication is a two-way process and is not complete without feedback. Feedback helps a communication to be an effective communication because feedback confirms receipt an adequate understanding of the intended message. Communication can be describe as a process of information transmission by three rules

- **Syntactic:** It means formal properties of sign and symbols
- **Pragmatic:** It concerned with the relations between signs/expressions and their users
- **Semantic:** It is the study of relationships between signs and symbols and what they represent.

In a simple communication model ,information or message is sent from an emisor/Sender/encoder

to a destination/receiver/Decoder.

3.2 Different viewpoints of communication

Communication is important in our daily life, business and other activities. It has taken much more attention nowadays both in academic and professional field. The most important factor, however, is how communication could be used to solve organizational communication difficulties. There are various viewpoints of communication available including the 'modern', 'interpretive', 'critical', and 'post-modern'.

3.2.1 Modern viewpoint

Modern framework of communication relies on objective measurement and decision-making based on traditional calculations and progress towards an improved and more general understanding of real world phenomena. In this framework, it requires the person to follow a clear appreciation of perspective implication for the communication process to be effective.

3.2.2 Interpretive viewpoint

The interpretive perspective of communication tends to be less concerned with generalized theory, but aims at revealing the complexity and richness of communication. It has been established that interpretive perspective of communication has some linkage to the ethnographic tradition in anthropology. An application of ethnographic studies to communication, therefore, will imply that researchers must spend lengthy periods in the field of communication using qualitative research methods like observation to record conversations, stories, rituals and other activities bothering on communication especially in offices, assembly plants, and in informal relationships. In such circumstances, such information may be interpreted in the form of detailed narratives. What must be noted however is that researchers in the field of interpretive communication are barred from imposing their own interpretation since this is likely to distort the whole process of communication.

3.2.3 Critical viewpoint

The idea behind the critical perspective is linked with the ways that communication channels are used to exercise power over employees in an organization for example. Research information on methods found in the modern and interpretive perspectives are also relevant to the critical perspective of communication. The critical perspective, however, uses a more sceptical approach, and this means a certain degree of critique of the manner in which communication evolves, especially in relation to manner of use of power relating to communication in organizations.

3.2.4 Post modern viewpoint

The post modern perspective normally challenges the assumptions of the modern perspective, for example, the way and manner in which research is used in the evolution of theory of communication science. The main focus of the post modern view is that there is no neutral access to the world, as portrayed by the modernists. Communication, it is believed, may be influenced by variables such as language, globalization and contemporary trends such as the internet. The implication of this is that it is possible to make an objective, generalized or unified statement about communication.

3.3 Goals of communication

Communication is a very important tool in our daily lives. Communication happens daily at workplace or at home and so many places. There are basically four major goals achievable by communication

- a) Improve recipient's level of understanding;
- b) Elicit receiver's response;
- c) Create good relations; and
- d) Create organisational goodwill.

3.3.1 Improve recipient's level of understanding

Suppose a sender send a message, it is obvious that sender of this message knows what is the meaning of the message. But, on the other hand if receiver is unable to understand the intended meaning of the message then it is ambiguous. The expected receiver's understanding of a message is the most critical goal or objective of the communication process.

3.3.2 Elicit receiver's response

Once a message is received, the receiver will respond by one of several actions, depending on his (that is, receiver's) understanding of the message. In direct conversation, the receiver has the benefit of seeking clarification on the import of the message and the sender could also take advantage of the face-to-face interaction to explain any ambiguities in his message. In written communication, however, this is not possible and the message may thus elicit varying interpretations, based on receiver's understanding.

3.3.3 To create good relations

Another goal of communication is the creation of good relations between the parties. The sender of a message must ensure that the content of the message does not cause strains in relations. Primary responsibility for creating and maintaining good relations would be assumed by the sender and this can be done by ensuring that the wording of the message looks good, positive and encouraging. Composing messages whose contents stress the interests of the receiver is critical.

3.3.4 To create organisational goodwill

Goodwill is a critical success factor in business and communication that must be used to enhance the creation of organisational goodwill. The goodwill of all stakeholders that the organisation deals with such as clients, suppliers, customers, government, the community, etc., is necessary for the continued successful operation of business. Similarly, when individuals communicate, the receiver of the message must enjoy his or her (sender's) confidence and trust as this is likely to facilitate receiver's appreciation and response.

3.4 Process of communication

The process of communication can be viewed as six point process.

1. Conception
2. Encoding
3. Channel selection
4. Decoding

5. Interpretation
6. Feedback

The process of communication starts with the idea of the message. This process may be instantaneous, that is, invention of message does not need serious reasoning.

Encoding the message

In the communication process, sender sends the message. To encode the message, sender nets to port the message into suitability form such that no one except the intended receiver understands the meaning of the message. The sender has the duty to ensure that language, vocabulary, symbols, pictures and signs used will convey the intended meaning to the receiver.

Selection of suitable channel

To send the message, sender needs to choose the media channel. The actual transformation of the message from sender to receiver takes place inside the channel. Factors to be considered in deciding on a suitable channel include speed, cost, convenience, confidentiality, distance considerations as well as the nature and type of message.

Decoding the message

Whenever receiver receives the message from sender, the message is actually encoded message. In order to give the response to the sender, receiver needs to decode the message for effective understanding. It is totally the responsibility of the receiver to decode the message correctly.

Interpretation of the message

Decoding the message and interpretation of the message looks similar. But, decoding the message means get the original message from the encoded message. After receiver gets the original message it is the receiver responsibility to interpret the meaning of the message properly. The interpretation made by receiver may be hampered if sender sends the message in complex way which may be unknown by the receiver.

Feedback

After receiver gets the message and interpreted correctly, it needs to tell the sender that the message is received correctly. The way by which Sender confirms the receiver about the message delivery is called feedback. Without feedback, whole communication process is unsuccessful. Depending on the type of communication, feedback could be oral, written or involve the use of body language.

3.5 Principles of effective communication

Each and every model of any process requires some standard. Similarly the model of copy effective communication follows below principles

Choice of words

choice of words is crucial is the intention of sender is to ensure effective decoding of the message by the receiver. The sender must choose the words carefully such that receiver will understand those words. The sender needs to know the interest of recipients, attitudes and emotion level to choose the word.

Clarity of purpose

The sender should be clear, concise, and to the point and thus avoid any irrelevant matter. Once this is done, no room is left for ambiguities, which could possibly lead to the message failing to convey the intended meaning.

Listen intelligently

communication is a two way process. Listening and speaking of the two opposite process but they are like husband-and-wife. When sender speak, she must speak in way such that receiver can understand. Suppose receiver listening the message intelligently but sender speak the message ambiguously. In this case, the communication is totally an unsuccessful communication.

Selection of proper media

The method for delivery of the message could have an impact on the expected results. This impact could be favourable or unfavourable depending on the suitability of the medium in a particular circumstance. For optimum results, therefore, it is imperative that the encoded message is delivered through the most suitable medium in order that the message would elicit the right response. Choice of media should be considered in relation to distance, time, sense of urgency, and cost.

Appropriate timing of the communication

It is important to decide when to send a particular message. Depending on the nature of the message a particular time may not be suitable. In our traditional Indian setting, transmission of news of death of a dear one, for instance, is carefully managed and this includes finding the most suitable time to break such news. This is for the obvious reason of managing the shock or impact of such bad piece of message on the recipient.

Obtaining feedback

Obtaining feedback will ensure that the communication has been effective. As stated earlier, a message may not be understood as a result of the inadequacies of the receiver but also because the sender may not have made the right decisions in relation to what likely impression could have been created by language and expressions used, suitability of the timing of delivery, nature of tone and appropriateness of the manner of delivery.

Standards

The quality of response obtained from the communication process is as good as the standard set for all aspects of the process. High standards in choice of media, methods used both in relation to language and presentation are likely to deliver results, in so far as they are suitable for the purpose and objective of the message being communicated.

3.6 Importance of communication

Communication happens in daily life and it has lots of significance in our daily workplace or social life. Following are the points given describing importance of communication.

1. Communication happens with the individuals and in the society. Communication is the main tool for the achievement of organizational goals and objectives.

2. Communication happens between two parties where sender sends a message to the receiver and receiver interprets the message and sends the response to the receiver.
3. A good communicator has more grabbing power. Good communication always keep up the interest of the audience in the subject matter being discussed.
4. Good communication helps a person to be a good and efficient leader. Good communication skills always lead to unambiguous, clear instruction and always motivates others in the workplace.
5. Good communication always promote good relationship with others.

Definition 3.1 the main purpose of communication is to communicate with others unambiguously. To do this, both the sender and receiver are equally responsible. Message sent by sender can be misinterpreted by the receiver and in this case there is confusion. In fact, communication is successful when both the sender and receiver understand the same information as a result of communication.

3.7 Models of communication

In our dynamic life whenever we are communicating with other people we have to test it. Model is used to test the communication. Models have been used in our daily life from engineering to the normal communication. A model is a theoretical representation of a real world situation. In the below model, Sx is the transmitter of the message and Rx is the receiver of the same message. When Rx gets the message from Sx, and respond to the message then there must be a feedback.

3.8 Barriers to effective communication

Barriers in the communication may affect the understanding of the message by receiver or even distort the messages. Barriers may arise at any stage of communication process.

1. At sender's level
2. At the encoding level
3. At the transmission level
4. At the receiver's level
5. At the feedback level

The main communication barriers are as follows

Unclear objective

If the sender of the message is not clear about the objective of the message then this situation occurs. And dignity and the lack of clarity in the message creates communication breakdown because the receiver have two unlikely to respond as expected by the sender.

Choice of wrong medium

Communication breakdown may happen in the complication process if the choice of medium is not suitable. For example, if you want to post some important letter you must go for speed post. Once an appropriate medium is chosen, the effectiveness of the commutation process and the chances of eliciting the desired response are enhanced.

Wrong timing

Timing of the communication is also crucial for the success of communication process. For example, it is better to discuss the research process whenever your mind is stable. Communication process

must be chosen at a time when there is a full concentration and thereby enhancing the effectiveness of the process.

Using bad words

The choice of words has great impact in the communication process. Suppose, the sender of the message choose the words which are too technical or too difficult for the receiver to understand. In this situation, the receiver cannot decode the message easily. Words that appear too easy or too simple may also constitute a problem. It is necessary, therefore, for the sender to be able to assess the receiver in order to be able to choose the most suitable words for the message. This way, the sender ensures that the message would achieve its goals.

Meaning of words

Whereas the sender may choose words with a certain and clear meaning in mind, the words in actual fact may connote some other meaning as far as the receiver is concerned. When this happens, the sender and the receiver are at cross purpose as they both have different meanings of the message. Connotative meaning can also arise as a result of one's experiences, opinions, emotional status and interests. In order to obtain shared meaning required for words used, the sender should analyse the message being sent to be able to determine what likely connotations could arise as a result of use of certain words.

Environmental factor

The environment within which, negation takes place also have great impact on the effectiveness of communication. For example, a telephone call from a crowded place or work from busy roadways is not clearly audible.

Capability of the receiver

Physical disabilities of recipient will have an obvious effect on the extent to which the recipient appreciates the intended meaning of a message. Hearing difficulties, for instance, are obvious situations that will constitute a barrier. It is important that the sender is able to take the receiver's capability into consideration in order to ensure effective communication.

Relationships

Relationships will, no doubt, affect the effectiveness of communication.

3.9 Media of communication

In this section, we will consider the media or methods for communicating a message. There are three main methods for communication: verbal method, non-verbal method and written communication

3.9.1 Verbal communication

Verbal communication always involves use of words. It is also known as oral communication. In this type of communication the information or message is transmitted by word from mouth. Verbal communication is always two-way process involving two or more persons. Effective verbal communication needs would good pronunciation skills, good articulation of words etc

3.9.1.1 Different forms of verbal/oral communication

We have already seen that verbal communication is also known as oral communication. We can categorise verbal or oral communication into the following forms:

Interviews Interviews are always two party conversations for some specific objective. This type of communication is specially used for recruitment and selection process.

Meetings In a meeting people are gathered together for the purpose of discussion. Meeting may be arranged within the organization at any level.

Telephone communication One of the most prominent uses of verbal communication is happen in telephone conversation. In this type of communication, conversation may take place between two or more persons from different location. When appropriately used, this method of communication could be very effective as it provides immediate feedback and may be relatively less expensive.

3.10 non-verbal communication

In non-verbal communication message or information transmitted to the receiver by using body language, facial expressions, symbols and pictures. This type of communication is a perfect example of routine and non-routine communication. The various forms of diagrams, pictures, graphs and slides facilitate the effective transmission of non-verbal communication

3.10.1 different areas of non-verbal communication

There are different categories of non-verbal communication which is described below

Kinetics or body language: this involves the movement of the body and it can further be divided into the following categories

- **facial expression:** facial expression always comes with some meaning. A smiley face always different than an awkward face.
- **Gestures:** this involves pointing fingers, movement of head to show the agreement or disagreement.
- **Movements:** moving the finger, head or other body parts conveys non-verbal communication which may be used to send the messages to the receiver.

Proxemics: this involves physical contact like handshake. It can be further classified into the following categories Positioning: Keeping a respectful distance, looking over one's shoulder, sitting close to someone are all forms of using non-verbal cues to communicate. They transmit awareness of differing status, a close working relationship or relaxed mutual trust respectively.

- **Posture:** Standing straight and erect, lounging, sitting hunched up, leaning forward, spreading oneself in a chair are all means of communicating non-verbally. These convey alertness and care, self confidence (or even over confidence), nervousness or ease respectively
- **Paralinguistic:** Feedback sounds of surprise or agreement or annoyance or impatience, for example, "uh-uh oops!". A heightened awareness of what people are saying non-verbally would greatly assist the manager to read a situation and to act - perhaps to ward-off a personality clash or to calm an irate customer.

3.10.2 Characteristics of non-verbal communication

Following are the important characteristics of non-verbal communication

1. Non-verbal communication provides additional visual stimulus. The presence of diagrams enhances the quality of what is being communicated

2. Sometimes non-verbal communication can be unintentional. Whenever sender sends the message to the receiver, sender may be unaware that the message is non-verbal.
3. Non-verbal communication reinforces oral communication by providing non-verbal cues to emphasize what is being said orally
4. Non-verbal communication may be more honest than the verbal communication
5. Non-verbal communication is always present. Neither oral nor written communication exists without non-verbal communication

3.10.3 Advantages of Non-Verbal Communication

- a) Non-verbal communication can help the communicator to overcome language barriers.
- b) Non-verbal communication makes it possible for information to be conveyed to many audiences.
- c) Non-verbal communication may be more reliable, at times, than verbal or oral communication because it is mostly transmitted unconsciously.
- d) Non-verbal communication is always present because this form of communication is always associated with oral or written communication.

3.10.4 Disadvantages of Non-Verbal Communication

- a) Non-verbal communication can, at times, be difficult to interpret without reinforcing it with written or spoken word
- b) Non-verbal communication may require additional skills of comprehension and interpretation
- c) Non-verbal communication does not allow time for evaluation

3.10.5 Written communication

Written communication is a form of communication in which the information to be transmitted is documented. It includes letters, memorandum, fax transmission, electronic mail, and organisational periodicals.

The following are the advantages of written communication.

- a) It provides written record and evidence of receipt.
- b) It is capable of transmitting complex ideas.
- c) It provides analysis, evaluation and summary.
- d) It disseminates information to dispersed receivers.
- e) It can confirm, interpret and clarify oral communication.
- f) It serves as the basis of contract or agreement.

The disadvantages of written communication include

- a) It can be expensive and take time to produce.
- b) Communication tends to be formal and distant.
- c) There is the tendency for misinterpretation to take place.
- d) There is no instant feedback.
- e) It does not allow for exchange of opinions, viewer's attitudes except over a period of time.

Definition 3.2 visual communication refers to the transfer of information through diagrams, display boards, flip charts and other forms of visual aids. The different types of Visual Aids/-Communication are as

1. The White Board

2. Objects and Models
3. Posters, Diagrams and Charts
4. Tables and Graphs
5. Strips and Slide Projectors
6. Overhead Projectors (OHP)
7. Video Tapes/Video Cassette Recorders

3.11 Patterns of communication

Communication in our society may take different patterns and various forms. The various types/patterns of communication are Formal, Vertical, Horizontal and also Informal System.

3.11.1 Formal system of communication

The formal system of communication always communicates which passes through the official channels. In this type of communication flow of communication is always backed by some degree of authority.

3.11.2 Vertical system of communication

In any organisation vertical system of communication means principal channel for routing the policies and directives from top decision-makers down to the all levels who implement them. All the ideas, suggestions, criticism antiquaries that originates from the superior level in any organisation is called as vertical communication. Vertical communication is discriminated either downward or upward direction.

3.11.2.1 Downward communication

In downward communication, communication is always flows from superiors to the subordinates. Downward flows of communication are the most common flow of communication in any organization. Following are the forms of downward communication.

- a) **Job instructions:** it is basically a direction about what to do and how to do it?
- b) **Procedures and practices:** it is the information about the rules and regulations, policies and benefits in any organization.
- c) **Feedback:** The manager can also provide information about how effective a subordinate is performing

3.11.2.2 Upward communication

In any organisation if the information goes from subordinates to superiors then it is known as upward communication. Upward communication is as important as the downward communication. Upward communication may take place in the following forms.

- a) Information of the subordinate about himself, his performance, his problems and grievances.
- b) Suggestion about what needs to be done and how it could be done.
- c) Report on what has been done.
- d) Information about other subordinates and their problems.
- e) Feedback about the subordinate and may include some of the issues listed above. What should be noted is that managers rely on upward communication for ideas and how things can be improved

3.11.3 Horizontal system of communication

Horizontal communication is also known as lateral communication. This type of communication happens between peoples works at the same or similar level in the organisation. Horizontal communication serves five purposes

1. **Task coordination**
2. **Problem-solving**
3. **Sharing information that will enhance employee's performance**
4. **Conflict resolution**
5. **Building a rapport among the employees**

3.11.4 Informal communication system

Inside any organisation some or some of the communication is done informally even it is official. Some aspects of informal communication are discussed below.

3.11.4.1 Grapevine

One of the major form of informal communication is Grapevine communication. Grapevine communication is totally unofficial communication system which is constantly changing.

Characteristics of Grapevine communication The major characteristics of the grapevine are as follows

1. Management has absolutely no control over this form of communication.
2. It is perceived by most employees as being more believable and reliable than formal communication issued by top management.
3. It is largely used to serve the self interest of the people within it.

It has been observed that the basis for grapevine is rumours and gossips.

3.12 Barriers to organisational communication

Barriers to effective organisational communication refer to all forms of impediments that may hinder the successful flow of communication in the organisation. A number of barriers can retard or distort effective communication. Some of these barriers are discussed below.

- Language
- Selective perception
- Information overload
- Emotion
- Noise
- Filtering
- Cultural differences
- Lack of feedback

One may take following steps to reduce the barriers to effective communication.

1. Expanding the basis of communication to include feedback
2. Use proper language
3. Improving the listening skills
4. Practising empathy
5. Follow basic communication guidelines like ambiguities, proper follow-ups, timing of messages
6. Filtering
7. Cultural differences
8. Lack of feedback

3.13 Interpersonal communication

Interpersonal communication is applied to both verbal and non-verbal interaction in one-to-one or in small group. The primary elements of the persons interpersonal communications are as follows

Listening: listening is the mental activity that a person goes through whilst he awaits his/her turn to speak. The listening process consists of four elements

- Hearing
- Filtering
- Interpreting
- Recalling

Listening, as a process, can be improved if the receiver takes an active role. The following guidelines can help to improve listening skills.

- Concentrating on the message
- Keeping an open mind
- Asking question if there is doubt
- Provided regular feedback
- Monitoring and controlling personal non-verbal communication signals
- Ensuring that written or tape-recorded notes are made clearly and in sufficient details for future reference and follow-up work

Speaking/oral communication : One of the main part of oral communication is speaking, by this we can convey messages. In order to create a well-structured oral message, the speaker should do following

1. First decide on the context of the oral communication and what outcomes are desired.
2. Establish the key points to get across and what running order would best link them together in a beginning, middle and an end.
3. Advance the salient facts and figures which will support the argument.
4. Decide on what the delivery style of the message should be before embarking it.
5. The speaker should constantly monitor the feedback he receives from his audience
6. The speaker should know when he has said enough (-) and (then) stop on a positive note.

3.14 The 7 C's of communication

There are 7 C's of effective communication which are applicable to both written as well as oral communication. These are as follows:

Completeness : The communication must be complete. It should convey all facts required by the audience. The sender of the message must take into consideration the receiver's mind set and convey the message accordingly. A complete communication has following features:

- a) Complete communication develops and enhances reputation of an organization.
- b) Moreover, they are cost saving as no crucial information is missing and no additional cost is incurred in conveying extra message if the communication is complete.
- c) A complete communication always gives additional information wherever required. It leaves no questions in the mind of receiver.
- d) Complete communication helps in better decision-making by the audience/readers/receivers of message as they get all desired and crucial information.
- e) It persuades the audience.

Conciseness: Conciseness means wordiness, i.e, communicating what you want to convey in least possible words without forgoing the other C's of communication. Conciseness is a necessity for effective communication. Concise communication has following features:

- a) It is both time-saving as well as cost-saving.
- b) It underlines and highlights the main message as it avoids using excessive and needless words.
- c) Concise communication provides short and essential message in limited words to the audience.
- d) Concise message is more appealing and comprehensible to the audience.
- e) Concise message is non-repetitive in nature.

Consideration : Consideration implies "stepping into the shoes of others". Effective communication must take the audience into consideration, i.e, the audience's view points, background, mind-set, education level, etc. Make an attempt to envisage your audience, their requirements, emotions as well as problems. Ensure that the self-respect of the audience is maintained and their emotions are not at harm. Modify your words in message to suit the audience's needs while making your message complete. Features of considerate communication are as follows:

- a) Emphasize on "you" approach.
- b) Empathize with the audience and exhibit interest in the audience. This will stimulate a positive reaction from the audience.
- c) Show optimism towards your audience. Emphasize on "what is possible" rather than "what is impossible". Lay stress on positive words such as jovial, committed, thanks, warm, healthy, help, etc.

Clarity : Clarity implies emphasizing on a specific message or goal at a time, rather than trying to achieve too much at once. Clarity in communication has following features:

- a) It makes understanding easier.
- b) Complete clarity of thoughts and ideas enhances the meaning of message.
- c) Clear message makes use of exact, appropriate and concrete words.

Concreteness : Concrete communication implies being particular and clear rather than fuzzy and general. Concreteness strengthens the confidence. Concrete message has following features:

- a) It is supported with specific facts and figures.
- b) It makes use of words that are clear and that build the reputation.
- c) Concrete messages are not misinterpreted.

Courtesy: Courtesy in message implies the message should show the sender's expression as well as should respect the receiver. The sender of the message should be sincerely polite, judicious, reflective and enthusiastic. Courteous message has following features:

- a) Courtesy implies taking into consideration both viewpoints as well as feelings of the receiver of the message.
- b) Courteous message is positive and focused at the audience.
- c) It makes use of terms showing respect for the receiver of message.
- d) It is not at all biased.

Correctness : Correctness in communication implies that there are no grammatical errors in communication. Correct communication has following features:

- a) The message is exact, correct and well-timed.
- b) If the communication is correct, it boosts up the confidence level.
- c) Correct message has greater impact on the audience/readers.
- d) It checks for the precision and accurateness of facts and figures used in the message.
- e) It makes use of appropriate and correct language in the message.

Awareness of these 7 C's of communication makes you an effective communicator.

3.15 Solved exercises

- Firewalls are used to protect a communication network system against: (Dec-2008)
 - Unauthorized attacks
 - Virus attacks
 - Data-driven attack
 - Fire-attacks
- Which one of the following Telephonic Conferencing with a radio link is very popular throughout the world? (J-2009)
 - TPS
 - Telepresence
 - Video conference
 - Video teletext
- Which is not 24 hours news channel (J-2009)
 - NDTV24x7
 - ZEE News
 - Aajtak
 - Lok Sabha channel
- The main objective of F.M. station in radio is: (J-2009)
 - Information, Entertainment and Tourism
 - Entertainment, Information and Interaction
 - Tourism, Interaction and Entertainment
 - Entertainment only
- In communication chatting in internet is: (J-2009)
 - Verbal communication
 - Non verbal communication
 - Parallel communication
 - Grapevine communication

- Match List-I with List-II and select List-I the correct answer using the codes List-II (J-2009)

(Artists)	(Art)
a) Pandit Jasraj	i) Hindustani vocalist
b) Kishan Maharaj	ii) Sitar
c) Ravi Shankar	iii) Tabla
d) Uday Shankar	iv) Dance

- (i) (ii) (iii) (iv)
 - (i) (iii) (iv) (ii)
 - (i) (iii) (ii) (iv)
 - (iii) (ii) (i) (iv)
- The country which has the distinction of having the two largest circulated newspapers in the world is (Dec-2009)
 - Great Britain
 - The United States
 - Japan
 - China
 - The chronological order of non-verbal communication is (Dec-2009)
 - Signs, symbols, codes, colours
 - Symbols, codes, signs, colours
 - Colours, signs, codes, symbols
 - Codes, colours, symbols, signs
 - Which of the following statements is not connected with communication? (Dec-2009)
 - Medium is the message.
 - The world is an electronic cocoon.
 - Information is power.
 - Telepathy is technological.
 - Communication becomes circular when (Dec-2009)
 - the decoder becomes an encoder

- (B) the feedback is absent
 (C) the source is credible
 (D) the channel is clear
- 11.** The site that played a major role during the terrorist attack on Mumbai (26/11) in 2008 was (Dec-2009)
 (A) Orkut
 (B) Facebook
 (C) Amazon.com
 (D) Twitter
- 12.** In communication, a major barrier to reception of messages is (Jun-2010)
 (A) audience attitude
 (B) audience knowledge
 (C) audience education
 (D) audience income
- 13.** Post-modernism is associated with (Jun-2010)
 (A) newspapers
 (B) magazines
 (C) radio
 (D) television
- 14.** Didactic communication is
 (A) intra-personal
 (B) inter-personal
 (C) organisational
 (D) relational
- 15.** In communication, the language is (Jun-2010)
 (A) the non-verbal code
 (B) the verbal code
 (C) the symbolic code
 (D) the iconic code
- 16.** Identify the correct sequence of the following: (Jun-2010)
 (A) Source, channel, message, receiver
 (B) Source, receiver, channel, message
 (C) Source, message, receiver, channel
 (D) Source, message, channel, receiver
- 17.** Media that exist in an interconnected series of communication points are referred to as (Dec-2010)
 (A) Networked media
 (B) Connective media
 (C) Nodal media
 (D) Nodal media
- 18.** The information function of mass communication is described as (Dec-2010)
 (A) diffusion
 (B) publicity
 (C) surveillance
 (D) diversion
- 19.** An example of asynchronous medium is (Dec-2010)
 (A) Radio
 (B) Television
 (C) Film
 (D) Newspaper
- 20.** In communication, connotative words are (Dec-2010)
 (A) Explicit
 (B) Abstract
 (C) Simple
 (D) Cultural
- 21.** A message beneath a message is labelled as (Dec-2010)
 (A) embedded text
 (B) internal text
 (C) inter-text
 (D) sub-text
- 22.** In analog mass communication, stories are (Dec-2010)
 (A) static
 (B) dynamic
 (C) interactive
 (D) exploratory

- 23.** Interpretation is beneficial when communicating across cultures. There are different kinds of interpretation, which include
- (A) Simultaneous.
 - (B) Transliteration.
 - (C) Sequential.
 - (D) All of the listed items.
- 24.** In the question below the two statements labelled as assertion (*A*) and reason (*R*). Which one of the following is correct.
- **Assertion (A):** a newspaper is a mass media tool
 - **Reason (R):** newspaper connects masses with pieces of information
- (A) Both *A* and *R* are true, *R* is the correct explanation of *A*
 - (B) Both *A* and *R* are true, *R* is not the correct explanation of *A*
 - (C) *A* is true, *R* is false
 - (D) *A* is false, *R* is false
- 25.** In the question below the two statements labelled as assertion (*A*) and reason (*R*). Which one of the following is correct.
- **Assertion (A):** non-verbal communication is related to expression of feelings, emotions in a wordless manner
 - **Reason (R):** body language is helpful in creating an understanding of any matter of feelings
- (A) Both *A* and *R* are true, *R* is the correct explanation of *A*
 - (B) Both *A* and *R* are true, *R* is not the correct explanation of *A*
 - (C) *A* is true, *R* is false
 - (D) *A* is false, *R* is false
- 26.** Respect is essential when practising as a health professional.
- (A) However, you only need to respect yourself and your colleagues.
 - (B) It is the foundational factor that builds mutual understanding and a therapeutic relationship.
 - (C) It is especially important when relating to people older than you.
 - (D) However, you only need to respect those people who respect you.
- 27.** The interpretation of physical message into a form that has eventual meaning for a receiver is called
- (A) Coding
 - (B) Recording
 - (C) Decoding
 - (D) Encoding
- 28.** Which of the following is the first newspaper to have a reader's editor?
- (A) The Times of India
 - (B) The Hindu
 - (C) Hindustan Times
 - (D) the pioneer
- 29.** In communication, ____ confirms receipt of the message.
- (A) Receiver
 - (B) Communication
 - (C) Channel
 - (D) Sender
- 30.** Communication is a ____ way process.
- (A) Two
 - (B) Three
 - (C) One
 - (D) None of above
- 31.** Which is India's first channel on children on TV?
- (A) Cartoon network
 - (B) Walt Disney
 - (C) United home entertainments Hungama TV
 - (D) Nick Junior

- 32.** Which of the following is the largest single edition regional newspaper?
- (A) Anandabazar patrika
 - (B) janasatta
 - (C) Nai Dunia
 - (D) None of the above
- 33.** The oldest existing English daily of India is
- (A) The Times of India
 - (B) The Hindustan Times
 - (C) The Hindu
 - (D) The Telegraph
- 34.** Channels used for downward communication are
- (A) Types of print
 - (B) Oral media
 - (C) Handbook manuals
 - (D) All of the above
- 35.** What is the other name of Hicky's Bengal Gazette?
- (A) The Bengal News
 - (B) Calcutta General advertiser
 - (C) Bengal Journal
 - (D) None of them
- 36.** Which communication has an emotional appeal?
- (A) Intrapersonal communication
 - (B) Interpersonal communication
 - (C) Mass communication
 - (D) Group communication
- 37.** A fatwa was issued in Salman Rushdie's name following the publication of
- (A) Midnight's children
 - (B) Shame
 - (C) Satanic Verses
 - (D) none of the above
- 38.** The function of mass communication of supplying information regarding the processes, issues, events and societal developments is known as: (June-2006)
- (A) Content supply
 - (B) Surveillance
 - (C) Gratification
 - (D) Correlation
- 39.** The science of the study of feedback systems in humans, animals and machines is known as: (June-2006)
- (A) Cybernetics
 - (B) Reverse communication
 - (C) Selectivity study
 - (D) Response analysis
- 40.** Networked media exist in interconnected: (June-2006)
- (A) Social environments
 - (B) Economic environments
 - (C) Political environments
 - (D) Technological environments
- 41.** The combination of computing, telecommunications and media in a digital atmosphere is referred to as: (June-2006)
- (A) Online communication
 - (B) Integrated media
 - (C) Digital combine
 - (D) Convergence
- 42.** The teacher has arranged a meeting with Sakshi's mother to discuss these concerns. Which of the following statements is best for the teacher to say to Sakshi's mother?
- (A) Sakshi needs extra practice reading and writing problematic letters and words at home at least 30 minutes per day.
 - (B) Please discuss the importance of schoolwork to Sakshi so that she will increase her efforts in classwork.

- (C) These are possible symptoms of dyslexia so I would like to refer her to a specialist for diagnosis.
- (D) Please adjust Sakshi's diet because she is most likely showing symptoms of ADHD due to food allergies.
- 43.** In which language the highest newspapers are published in India
- (A) English
- (B) Hindi
- (C) Bengali
- (D) Gujarati
- 44.** Which of the following is best suited with the Reader's Digest?
- (A) It is monthly periodical
- (B) It is a newspaper
- (C) It is quarterly periodical
- (D) None of the above
- 45.** The first objective of teaching English is to develop
- (A) Listening skill
- (B) speaking skill
- (C) Reading skill
- (D) writing skill
- 46.** The numbers of kinds of sounds are
- (A) 2
- (B) 3
- (C) 4
- (D) 5
- 47.** Which of the following is used to facilitate oral presentation?
- (A) Aid
- (B) Aids
- (C) Visual Aids
- (D) Manual Aids
- 48.** Which ONE of the following is a basic type of speech?
- (A) Poetry
- (B) Written
- (C) Public
- (D) Precise
- 49.** A speech-writer earns a good living by writing speeches is
- (A) Professional
- (B) Personal
- (C) Elementary
- (D) Semi-literate
- 50.** When using remote communication it is best to
- (A) Use concise, accurate and clear statements.
- (B) Use unexplained jargon.
- (C) Use spoken expression and construction.
- (D) Avoid checking spelling and grammar.
- 51.** The kinds of sounds are
- (A) Consonant sounds, oral sounds
- (B) Oral sounds, vowel sound
- (C) Verbal sounds, consonant sounds
- (D) Consonant sounds, Vowel sounds
- 52.** Phonemes are the unit of sound
- (A) Maximum
- (B) Minimum
- (C) Medium
- (D) Large
- 53.** A dialogue between a human-being and a computer programme that occurs simultaneously in various forms is described as: (June-2006)
- (A) Man-machine speak
- (B) Binary chat
- (C) Digital talk
- (D) Interactivity

- 54.** Which one of the following can be termed as verbal communication? (Dec-2006)
- (A) Prof. Sharma delivered the lecture in the class room.
- (B) Signal at the cross-road changed from green to orange.
- (C) The child was crying to attract the attention of the mother.
- (D) Dipak wrote a letter for leave application.
- 55.** Which is the 24 hours English Business news channel in India? (Dec-2006)
- (A) Zee News
- (B) NDTV 24 x 7
- (C) CNBC
- (D) India News
- 56.** Consider the following statements in communication:
- i) Hema Malini is the Chairperson of the Children's Film Society, India.
- ii) Yash Chopra is the Chairman of the Central Board of Film Certification of India.
- iii) Sharmila Tagore is the Chairperson of National Film Development Corporation.
- iv) Dilip Kumar, Raj Kapoor and Preeti Zinta have all been recipients of Dada Saheb Phalke Award.
- Which of the statements given above is/are correct? (Dec-2006)
- (A) (i) and (iii)
- (B) (ii) and (iii)
- (C) (iv) only
- (D) (iii) only
- 57.** The number of branches of phonetics are
- (A) 2
- (B) 3
- (C) 4
- (D) 5
- 58.** Which of the following is matched with press trust of India
- (A) It is an News agency
- (B) It is an newspaper
- (C) It is a trust for poor
- (D) None of the above
- 59.** In which year modern postal service started in India?
- (A) 1837
- (B) 1839
- (C) 1848
- (D) 1948
- 60.** Who said that communication is the interchange of thoughts and ideas
- (A) McLuhan
- (B) Dennis McQuail
- (C) Charles E. Osgood
- (D) Lord Mountbatten
- 61.** ONE of the following groups is the components of The Rhetorical Triangle.
- (A) Appeal and logic
- (B) Appeal, emotion and logic
- (C) Appeal, resolution and logic
- (D) Resolution, logic and emotion
- 62.** In an organization, the two basic types of correspondence are
- (A) External and international
- (B) International and regional
- (C) Internal and external
- (D) Internal and regional
- 63.** ONE of the following is NOT a characteristic of internal correspondence.
- (A) May not be disclosed to outsiders
- (B) Sometimes restrictive
- (C) Sometimes secretive
- (D) May be disclosed to outsiders

- 64.** Internal correspondence may be either secret or
 (A) Closed
 (B) Open
 (C) National
 (D) Departmental
- 65.** At the end of 19th century who introduced motion pictures?
 (A) Lumiere Brothers
 (B) Guttenberg
 (C) Thomas Kuhn
 (D) Donald Knuth
- 66.** Non-verbal communication is
 (A) Kinesics
 (B) Proxemics
 (C) Para language
 (D) All of the above
- 67.** Interpersonal communication is
 (A) Person to person contact
 (B) When an individual sends and receives messages
 (C) The thought process
 (D) Communication with mass audience
- 68.** When using remote communication it is advisable to avoid
 (A) Formal language.
 (B) Abrupt and impolite messages.
 (C) Correcting spelling and grammar.
 (D) Using one idea to a sentence.
- 69.** Phonology is the study of how sounds are
 (A) Produced
 (B) Transmitted
 (C) Organized
 (D) Distinguished
- 70.** Which of the following incidents happened in year 1854?
 (A) IU postal system was introduced
 (B) Post office savings bank started
 (C) The first postage stamp introduced
 (D) All of them happened in the same year
- 71.** Which of the following is the full form of UNI
 (A) United Nations information
 (B) United Nations India
 (C) United News Indian
 (D) None of the above
- 72.** Which of the following pair is not correctly matched? (Dec-2006)
 (A) N. Ram: The Hindu
 (B) Barkha Dutt : Zee News
 (C) Pranay Roy: NDTV 24?7
 (D) Prabhu Chawla: Aaj taak
- 73.** "Because you deserve to know "is the punchline used by: (Dec-2006)
 (A) The Times of India
 (B) The Hindu
 (C) Indian Express
 (D) Hindustan Times
- 74.** Press Council of India is located at: (J-2007)
 (A) Chennai
 (B) Mumbai
 (C) Kolkata
 (D) Delhi
- 75.** Adjusting the photo for publication by cutting is technically known as: (J-2007)
 (A) Photo cutting
 (B) Photo bleeding
 (C) Photo cropping
 (D) Photo adjustment
- 76.** Feed-back of a message comes from: (J-2007)
 (A) Satellite
 (B) Media
 (C) Audience
 (D) Communicator

- 77.** The highest level in linguistics is
 (A) Phonology
 (B) phonetics
 (C) Morphology
 (D) Pragmatics
- 78.** DNA is a joint venture of
 (A) Zee TV and Star TV
 (B) Zee TV and Dainik Jagran
 (C) Zee TV and Dainik Bhaskar
 (D) Zee TV and Doordarshan
- 79.** Who among the following is a celebrated cartoonist
 (A) Abu Abraham
 (B) Ajay Jadeja
 (C) Morris Odumbe
 (D) Sanath Jayasurya
- 80.** The official secrets act came into effect in
 (A) 1910
 (B) 1923
 (C) 1945
 (D) 1947
- 81.** The Right to information act came into effect in
 (A) 2006
 (B) 2004
 (C) 2005
 (D) 1999
- 82.** The numbers of vowels in English are
 (A) 21
 (B) 3
 (C) 4
 (D) 5
- 83.** Collection of information in advance before designing communication strategy is known as: (J-2007)
 (A) Feed-back
 (B) Feed-forward
 (C) Research study
 (D) Opinion poll
- 84.** The aspect ratio of TV screen is: (J-2007,Dec-2011)
 (A) 4:3
 (B) 4:2
 (C) 3:5
 (D) 2:3
- 85.** DTH service was started in the year: (Dec-2007)
 (A) 2000
 (B) 2002
 (C) 2004
 (D) 2006
- 86.** National Press day is celebrated on: (Dec-2007)
 (A) 16th November
 (B) 19th November
 (C) 21th November
 (D) 30th November
- 87.** The total number of members in the Press Council of India are: (Dec-2007)
 (A) 28
 (B) 14
 (C) 17
 (D) 20
- 88.** The right to impart and receive information is guaranteed in the Constitution of India by Article: (Dec-2007)
 (A) 19 (2) (a)
 (B) 19(16)
 (C) 19(2)
 (D) 19(1) (a)
- 89.** The number of consonants in English are
 (A) 15
 (B) 21
 (C) 26
 (D) 31

- 90.** What is an external correspondence issued to the mass media on a specific issue, which is meant for public consumption called?
- (A) House Release
(B) Press Release
(C) Press Note
(D) House Report
- 91.** Which of the following is NOT a feature of an official letter?
- (A) Written on the letter head
(B) Contains personal feelings
(C) Carries a reference number
(D) contains address and telephone number(s)
- 92.** ONE of the following is NOT a feature of a special meeting.
- (A) Handling of routine matters
(B) No consideration of minutes of any previous meeting
(C) Notice of meeting
(D) Called to consider a specific issue or issues
- 93.** The conversion of spoken words into written language is
- (A) Transplantation
(B) Transmission
(C) Transcription
(D) Translation
- 94.** Remote communication takes many forms and has various characteristics. It includes
- (A) Telephones and the internet.
(B) Written reports and databases.
(C) Video/teleconferences.
(D) All of the above.
- 95.** Which of the following is the full form of PIN (related to PIN code)
- (A) Postal index number
(B) Postal identity number
(C) Both A and B
(D) None of the above
- 96.** In which year air mail system started
- (A) 1854
(B) 1853
(C) 1829
(D) 1975
- 97.** In 1881-82, the first telephone service was started in
- (A) Kolkata
(B) Mumbai
(C) Delhi
(D) Howrah
- 98.** Effective communication requires
- (A) Connection, an uncommon purpose and mutual understanding
(B) Receiving and understanding
(C) Understanding of different environmental factors
(D) None of the above
- 99.** The Indian equivalent of communication is
- (A) Antology bhab
(B) Samvahana,
(C) Anubhav
(D) All of the above
- 100.** Communication with oneself is known as: (June-2008,Dec-2011)
- (A) Group communication
(B) Grapevine communication
(C) Interpersonal communication
(D) Intrapersonal communication
- 101.** Which broadcasting system for TV is followed in India? (June-2008) In India for broadcasting TV programmes which system is followed ?
- (A) NTSE

- (B) PAL
(C) SECAM
(D) NTCS
- 102.** All India Radio before 1936 was known as: (June-2008)
(A) Indian Radio Broadcasting
(B) Broadcasting Service of India
(C) Indian Broadcasting Service
(D) All India Broadcasting Service
- 103.** The biggest news agency of India is: (June-2008)
(A) PTI
(B) UNI
(C) NANAP
(D) Samachar Bharati
- 104.** Prasar Bharati was launched in the year: (June-2008)
(A) 1995
(B) 1997
(C) 1999
(D) 2001
- 105.** Intrapersonal communication is best described as
(A) Complication between person to person
(B) Talking to oneself
(C) More than two persons are talking
(D) All of the above
- 106.** Which is the father of Indian language journalism in India
(A) Raja Rammohan Roy
(B) Swami Vivekananda
(C) Sister Nivedita
(D) Netaji Subhash Chandra Bose
- 107.** Who among the following wrote the book television in India
(A) Vinod Mehta
(B) Nalin Mehta
(C) Milkha Singh
(D) Amitava Bachhan
- 108.** Which of the following newspaper is published in a tabloid form
(A) Mail today
(B) The statement
(C) The Telegraph
(D) The Tribune
- 109.** Grapevine is related to
(A) Horizontal communication
(B) Vertical communication
(C) Oral communication
(D) Informal communication
- 110.** Misunderstandings
(A) Can be easily avoided if you supply written information.
(B) Only occur when you have not clearly explained something.
(C) Can be avoided if you adjust your language appropriately and allow time for questioning and clarifying.
(D) Are breakdowns in communication
- 111.** Which of the following is NOT a feature of a regular meeting?
(A) Notice of meeting
(B) Consideration of minutes of a previous meeting
(C) Motion for adjournment
(D) Call to the bar
- 112.** Which of the following is the purpose for convening an emergency meeting?
(A) There is a ceremony to be performed
(B) There is a member of staff to be sent off
(C) There is an urgent matter at hand
(D) There is money to be shared

- 113.** Channel for upward communication is
 (A) Newspapers
 (B) Letters sent to home
 (C) Posters
 (D) Offer options that allow anonymous input, such as suggestion boxes etc
- 114.** When was censorship introduced on Indian press
 (A) 1970
 (B) 1790
 (C) 1792
 (D) 1795
- 115.** When was commercial broadcasting started in Akashvani?
 (A) November 1, 1967
 (B) November 1, 1957
 (C) November 1, 1935
 (D) November 1, 1945
- 116.** In India, the first automatic telephone exchange was commissioned at
 (A) Calcutta
 (B) Delhi
 (C) Shimla
 (D) None of the above
- 117.** Which of the following is full form of NSD with respect to communication technology
 (A) National subscriber dialling
 (B) National School of defence technology
 (C) National system of dialling technology
 (D) none of the above
- 118.** In which year VSNL was formed
 (A) 1986
 (B) 1983
 (C) 1922
 (D) 1935
- 119.** When was the national channel started up broadcast quality music.
 (A) 18 May, 1988
 (B) 18 May, 1936
 (C) 18 May, 1947
 (D) 18 May, 1992
- 120.** Which of the following happened in 1976
 (A) Doordarshan was separated from AIR
 (B) Doordarshan was separated from FM
 (C) Colour television was introduced in India
 (D) None of the above
- 121.** Which of the following is true about Prasar Bharti?
 (A) It is a television channel
 (B) It is newspaper
 (C) It is magazine
 (D) It is autonomous broadcasting Corporation
- 122.** Community Radio is a type of radio service that caters to the interest of: (Dec-2008)
 (A) Local audience
 (B) Education
 (C) Entertainment
 (D) News
- 123.** Orcut was a part of: (Dec-2008)
 (A) Intra personal Communication
 (B) Mass Communication
 (C) Group Communication
 (D) Interpersonal Communication
- Match List-I with List-II and select the correct answer using the codes given below: (Dec-2008)

114. D 115. A 116. C 117. A 118. A 119. A 120. A 121. D 122. A 123. C 123. E

List-I (Artists)	List – II (Art)
a) Amrita Shergill	i) Flute
b) T. Swaminathan Pillai	ii) Classical Song.
c) Bhimsenjoshi	iii) Painting.
d) Padma Subramaniyam	iv) Bharat Natyam

(E) (iii) (i) (ii) (iv)

(F) (ii) (iii) (i) (iv)

(G) (iv) (ii) (iii) (i)

(H) (i) (iv) (ii) (iii)

124. Which is not correct in latest communication award? (Dec-2008)

(A) Salman Rushdie – Booker's Prize - July 20, 2008

(B) Dilip Sanghavi – Business Standard CEO Award July 22, 2008

(C) Tapan Sinha – Dada Saheb Falke Award, July 21, 2008

(D) Gautam Ghosh – Osians Lifetime Achievement Award July 11, 2008

125. The first newspaper in India started in

(A) Kolkata

(B) Assam

(C) Bangladesh

(D) Chattagram

126. ONE of the following is NOT a purpose for which a notice of meeting is sent to members of a meeting.

(A) Invite participants to an event

(B) Inform participants prior to the take-off of an event

(C) Inform participants after the take-off of an event

(D) Give ample time for participants to plan to attend an event

127. Which of the following states the three fundamental tools of a meeting?

(A) Notice of Meeting, Chairman's Opening Remarks and Agenda

(B) Notice of Meeting, Agenda and Minutes of Meeting

(C) Agenda, Chairma's Opening Remarks and Chairman's Closing Remarks

(D) Notice of Meeting, Chairman'S Closing Remarks and Agenda

128. Match the following

A)Pictures	1)High order skills
B) High skills	2)Visual communication
C) Hums	3)Speech art
D) Long distances	4)Public telephone network

(A) $A - 2, B - 3, C - 1, D - 4$ (B) $A - 2, B - 1, C - 3, D - 4$ (C) $A - 4, B - 3, C - 1, D - 2$ (D) $A - 3, B - 2, C - 4, D - 1$

129. Match the following

A)Teleconferencing	1)First para of news
B) Angle	2)A website where you can add, remove or edit the content
C) Lead	3)group of persons
D) Wikipedia	4) Focus of the story

(A) $A - 2, B - 3, C - 1, D - 4$ (B) $A - 3, B - 4, C - 1, D - 2$ (C) $A - 4, B - 3, C - 1, D - 2$ (D) $A - 3, B - 2, C - 4, D - 1$

130. Generally in a communication the position of perception, retention and recall will be

(A) Like Channel variables

(B) Like dependent variable

- (C) Like destination variable
 (D) None of the above
- 131.** Which of the following is the responsibility of a messenger?
- (A) To encode the message
 (B) To decline the message
 (C) To develop the message
 (D) All of the above

3.16 Previous year questions

- Internal and external factors that affect message reception by the students in the classroom are referred to as [2016-AUGUST]
 (A) feedback
 (B) fragmentation
 (C) channelization
 (D) noise
- A teacher in a classroom has immediate control over [2016-AUGUST]
 (A) the self, selected methods of communication and the message.
 (B) the audience, the noise and the reception.
 (C) the feedback, the technology and the audience experience.
 (D) the communication channel, other communicators, and external factors.
- What do communicated words carry in a classroom situation? [2016-AUGUST]
 (A) Inspiration, controversy and introspection
 (B) Diversion, criticism and irrationality
 (C) Insipidity, irrationality, and non-acceptance
 (D) Power, structure and tradition
- As a good classroom communicator, you are supposed to know your [2016-AUGUST]
 (A) audience emotions
 (B) silent cues
 (C) artful pauses
 (D) counter arguments
- Figure out the components of non-verbal communication in a classroom from the following : [2016-AUGUST]
 (A) Facial expression, cultural space and seating arrangement
 (B) Speed of utterance, feel good factor and acoustics
 (C) High sound, physical ambience and teacher-learner distance
 (D) Facial expression, kinesics and personal space
- Which of the following are the basic factors of effective listening? [2016-AUGUST]
 (A) Opinionation, stare and glare and interruptions
 (B) Aggressive questioning, continuous cues and frequent movement
 (C) Me-too-ism, glancing sideways, and offering advice
 (D) Acknowledgement of thoughts, reflection, and asking open-ended questions
- The choice of communication partners is influenced by factors of [2016-JULY]
 (A) Proximity, utility, loneliness
 (B) Utility, secrecy, dissonance
 (C) Secrecy, dissonance, deception
 (D) Dissimilarity, dissonance, deviance
- Every communicator has to experience [2016-JULY]
 (A) Manipulated emotions
 (B) Anticipatory excitement
 (C) The issue of homophiles
 (D) Status dislocation

- 9.** As a teacher, select the best option to ensure your effective presence in the classroom. [2016-JULY]
- (A) Use of peer command
 - (B) Making aggressive statements
 - (C) Adoption of well-established posture
 - (D) Being authoritarian
- 10.** Imagine you are working in an educational institution where people are of equal status. Which method of communication is best suited and normally employed in such a context? [2016-JULY]
- (A) Horizontal communication
 - (B) Vertical communication
 - (C) Corporate communication
 - (D) Cross communication
- 11.** Identify the important element a teacher has to take cognizance of while addressing students in a classroom. [2016-JULY]
- (A) Avoidance of proximity
 - (B) Voice modulation
 - (C) Repetitive pause
 - (D) Fixed posture
- 12.** What are the barriers to effective communication?
- (A) Moralising, being judgemental and comments of consolation.
 - (B) Dialogue, summary and self-review.
 - (C) Use of simple words, cool reaction and defensive attitude.
 - (D) Personal statements, eye contact and simple narration.
- 13.** Using the central point of the classroom communication as the beginning of a dynamic pattern of ideas is referred to as: [2015-DECEMBER]
- (A) Systemisation
 - (B) Problem orientation
 - (C) Idea protocol
 - (D) Mind mapping
- 14.** Aspects of the voice, other than the speech are known as: [2015-DECEMBER]
- (A) Physical language
 - (B) Personal language
 - (C) Para language
 - (D) Delivery language
- 15.** Every type of communication is affected by its: [2015-DECEMBER]
- (A) Reception
 - (B) Transmission
 - (C) Non-regulation
 - (D) Context
- 16.** Attitudes, actions and appearances in the context of classroom communication are considered as: [2015-DECEMBER]
- (A) Verbal
 - (B) Non-verbal
 - (C) Impersonal
 - (D) Irrational
- 17.** Most often, the teacher - student communication is: [2015-DECEMBER]
- (A) Spurious
 - (B) Critical
 - (C) Utilitarian
 - (D) Confrontational
- 18.** In a classroom, a communicators trust level is determined by: [2015-DECEMBER]
- (A) the use of hyperbole
 - (B) the change of voice level
 - (C) the use of abstract concepts
 - (D) eye contact
- 19.** Effectiveness of communication can be traced from which of the following [2015-JUNE]
- a) Attitude surveys
 - b) Performance records
 - c) Students attendance
 - d) Selection of communication channel

- (A) (a), (b), (c) and (d)
 (B) (a), (b) and (c)
 (C) (b), (c) and (d)
 (D) (a), (b) and (d)
- 20.** ASSERTION (A) : Formal communication tends to be fast and flexible [2015-JUNE]
 REASON : Formal communication is a systematic and orderly flow of information
 (A) Both (A) and (R) are correct and (R) is correct explanation of (A)
 (B) Both (A) and (R) are correct, but (R) is not correct explanation of (A)
 (C) (A) is correct but, (R) is false
 (D) (A) is false but, (R) is correct
- 21.** Which of the following are the characteristic features of communication [2015-JUNE]
 a) Communication involves exchange of ideas, facts and opinions
 b) Communication involves both information and understanding
 c) Communication is a continuous process
 d) Communication is a circular process
 (A) (a), (b) and (c)
 (B) (a), (b) and (d)
 (C) (b), (c) and (d)
 (D) (a), (b), (c) and (d)
- 22.** The term 'grapevine' is also known as [2015-JUNE]
 (A) Downward communication
 (B) Informal communication
 (C) Upward communication
 (D) Horizontal communication
- 23.** Which of the following is not a principle of effective communication [2015-JUNE]
 (A) Persuasive and convincing dialogue
 (B) Participation of the audience
 (C) One-way transfer of information
 (D) Strategic use of grapevine
- 24.** In communication, the language is [2015-JUNE]
 (A) The verbal code
 (B) Intrapersonal
 (C) The symbolic code
 (D) The non-verbal code
- 25.** The mode of communication that involves a single source transmitting information to a large number of receivers simultaneously, is called [2014-DECEMBER]
 (A) Group Communication
 (B) Mass Communication
 (C) Intrapersonal Communication
 (D) Interpersonal Communication
- 26.** A smart classroom is a teaching space which has [2014-DECEMBER]
 i) Smart portion with a touch panel control system.
 ii) PC/Laptop connection and DVD/VCR player.
 iii) Document camera and specialized software
 iv) Projector and screen
 Select the correct answer from the codes given below:
 (A) (i) and (ii) only
 (B) (ii) and (iv) only
 (C) (i), (ii) and (iii) only
 (D) (i), (ii), (iii) and (iv)
- 27.** The term Yellow Journalism refers to [2014-DECEMBER]
 (A) Sensational news about terrorism and violence
 (B) Sensationalism and exaggeration to attract readers / viewers.
 (C) Sensational news about arts and culture.
 (D) Sensational news prints in yellow paper.

- 28.** In the classroom, the teacher sends the message either as words or images. The students are really [2014-DECEMBER]
(A) Encoders
(B) Decoders
(C) Agitators
(D) Propagators
- 29.** Break-down in verbal communication is described as [2014-JUNE]
(A) Short Circuit
(B) Contradiction
(C) Unevenness
(D) Entropy
- 30.** The Telephone Model of Communication was first developed in the area of [2014-JUNE]
(A) Technological theory
(B) Dispersion theory
(C) Minimal effects theory
(D) Information theory
- 31.** The Dada Saheb Phalke Award for 2013 has been conferred on [2014-JUNE]
(A) Karan Johar
(B) Amir Khan
(C) Asha Bhonsle
(D) Gulzar
- 32.** Photographs are not easy to [2014-JUNE]
(A) Publish
(B) Secure
(C) Decode
(D) Change
- 33.** The grains that appear on a television set when operated are also referred to as [2014-JUNE]
(A) Sparks
(B) Green Dots
(C) Snow
(D) Rain Drops
- 34.** In circular communication, the encoder becomes a decoder when there is [2014-JUNE]
(A) Noise
(B) Audience
(C) Criticality
(D) Feedback
- 35.** Users who use media for their own ends are identified as [2013-DECEMBER]
(A) Passive audience
(B) Active audience
(C) Positive audience
(D) Negative audience
- 36.** Classroom communication can be described as [2013-DECEMBER]
(A) Exploration
(B) Institutionalisation
(C) Unsignified narration
(D) Discourse
- 37.** Ideological codes shape our collective [2013-DECEMBER]
(A) Productions
(B) Perceptions
(C) Consumptions
(D) Creations
- 38.** In communication myths have power but are [2013-DECEMBER]
(A) uncultural
(B) insignificant
(C) imprecise
(D) unprefered
- 39.** The first multi-lingual news agency of India was [2013-DECEMBER]
(A) Samachar
(B) API
(C) Hindustan Samachar
(D) Samachar Bharati

- 40.** Organisational communication can be equated with [2013-DECEMBER]
(A) intra-personal communication
(B) inter personal communication
(C) group communication
(D) mass communication
- 41.** If two propositions having the same subject and predicate terms are such that one is the denial of the other, the relationship between them is called [2013-DECEMBER]
(A) Contradictory
(B) Contrary
(C) Sub-contrary
(D) Sub-alteration
- 42.** Classroom communication is normally considered as [2013-SEPTEMBER]
(A) effective
(B) affective
(C) cognitive
(D) non-selective
- 43.** Telephone is an example of [2013-SEPTEMBER]
(A) linear communication
(B) non-linear communication
(C) circular
(D) mechanised
- 44.** Means of grapevine communication are [2013-SEPTEMBER]
(A) formal
(B) informal
(C) critical
(D) corporate
- 45.** Communication issues at the international level are addressed by [2013-SEPTEMBER]
(A) ILO
(B) ITU
(C) UNDP
(D) UNESCO
- 46.** Referential framing used by TV audience connects media with [2013-SEPTEMBER]
(A) reality
(B) falsity
(C) negativity
(D) passivity
- 47.** The communicated knowledge in a classroom is considered as [2013-SEPTEMBER]
(A) non-pervasive treasure
(B) limited judgement
(C) autonomous virtue
(D) cultural capital
- 48.** The English word Communication is derived from the words [2012-DECEMBER]
(A) Communis and Communicare
(B) Communist and Commune
(C) Communism and Communalism
(D) Communion and Common sense
- 49.** Chinese Cultural Revolution leader Mao Zedong used a type of communication to talk to the masses is known as [2012-DECEMBER]
(A) Mass line communication
(B) Group communication
(C) Participatory communication
(D) Dialogue communication
- 50.** Conversing with the spirits and ancestors is termed as [2012-DECEMBER]
(A) Transpersonal communication
(B) Intrapersonal communication
(C) Interpersonal communication
(D) Face-to-face communication
- 51.** The largest circulated daily newspaper among the following is [2012-DECEMBER]
(A) The Times of India
(B) The Indian Express
(C) The Hindu
(D) The Deccan Herald

- 52.** The pioneer of the silent feature film in India was [2012-DECEMBER]
 (A) K.A. Abbas
 (B) Satyajit Ray
 (C) B.R. Chopra
 (D) Dada Sahib Phalke
- 53.** Classroom communication of a teacher rests on the principle of [2012-DECEMBER]
 (A) Infotainment
 (B) Edutainment
 (C) Entertainment
 (D) Power equation
- 54.** Video-Conferencing can be classified as one of the following types of communication : [2012-JUNE]
 (A) Visual one way
 (B) Audio-Visual one way
 (C) Audio-Visual two way
 (D) Visual two way
- 55.** MC National University of Journalism and Communication is located at [2012-JUNE]
 (A) Lucknow
 (B) Bhopal
 (C) Chennai
 (D) Mumbai
- 56.** All India Radio (A.I.R.) for broadcasting was named in the year [2012-JUNE]
 (A) 1926
 (B) 1936
 (C) 1946
 (D) 1956
- 57.** In India for broadcasting TV programmes which system is followed ? [2012-JUNE]
 (A) NTCS
 (B) PAL
 (C) NTSE
 (D) SECAM
- 58.** The term DAVP stands for [2012-JUNE]
 (A) Directorate of Advertising & Vocal Publicity
 (B) Division of Audio-Visual Publicity
 (C) Department of Audio-Visual Publicity
 (D) Directorate of Advertising & Visual Publicity
- 59.** The term TRP is associated with TV shows stands for [2012-JUNE]
 (A) Total Rating Points
 (B) Time Rating Points
 (C) Thematic Rating Points
 (D) Television Rating Points
- 60.** Photo bleeding means [2011-DECEMBER]
 (A) Photo cropping
 (B) Photo placement
 (C) Photo cutting
 (D) Photo colour adjustment
- 61.** While designing communication strategy feed-forward studies are conducted by [2011-DECEMBER]
 (A) Audience
 (B) Communicator
 (C) Satellite
 (D) Media
- 62.** In which language the newspapers have highest circulation? [2011-DECEMBER]
 (A) English
 (B) Hindi
 (C) Bengali
 (D) Tamil
- 63.** Aspect ratio of TV Screen is [2011-DECEMBER]
 (A) 4 : 3
 (B) 3 : 4
 (C) 2 : 3
 (D) 2 : 4

- 64.** Communication with oneself is known as [2011-DECEMBER]
(A) Organisational Communication
(B) Grapewine Communication
(C) Interpersonal Communication
(D) Intrapersonal Communication
- 65.** The term SITE stands for [2011-DECEMBER]
(A) Satellite Indian Television Experiment
(B) Satellite International Television Experiment
(C) Satellite Instructional Television Experiment
(D) Satellite Instructional Teachers Education
- 66.** Public communication tends to occur within a more [2011-JUNE]
(A) Complex structure
(B) Political structure
(C) Convenient structure
(D) Formal structure
- 67.** Transforming thoughts, ideas and messages into verbal and non-verbal signs is referred to as [2011-JUNE]
(A) Channelisation
(B) Mediation
(C) Encoding
(D) Decoding
- 68.** Effective communication needs a supportive [2011-JUNE]
(A) Economic environment
(B) Political environment
(C) Social environment
(D) Multi-cultural environment
- 69.** A major barrier in the transmission of cognitive data in the process of communication is an individuals [2011-JUNE]
(A) Personality
(B) Expectation
(C) Social status
(D) Coding ability
- 70.** When communicated, institutionalised stereotypes become [2011-JUNE]
(A) Myths
(B) Reasons
(C) Experiences
(D) Convictions
- 71.** In mass communication, selective perception is dependent on the receivers [2011-JUNE]
(A) Competence
(B) Pre-disposition
(C) Receptivity
(D) Ethnicity
- 72.** Media that exist in an interconnected series of communication points are referred to as [2010-DECEMBER]
(A) Networked media
(B) Connective media
(C) Nodal media
(D) Multimedia
- 73.** The information function of mass communication is described as [2010-DECEMBER]
(A) diffusion
(B) publicity
(C) surveillance
(D) diversion
- 74.** An example of asynchronous medium is [2010-DECEMBER]
(A) Radio
(B) Television
(C) Film
(D) Newspaper

- 75.** In communication, connotative words are [2010-DECEMBER]
 (A) Explicit
 (B) Abstract
 (C) Simple
 (D) Cultural
- 76.** A message beneath a message is labelled as [2010-DECEMBER]
 (A) Embedded text
 (B) Internal text
 (C) Inter-text
 (D) Sub-text
- 77.** In analog mass communication, stories are [2010-DECEMBER]
 (A) Static
 (B) Dynamic
 (C) Interactive
 (D) Exploratory
- 78.** In communication, a major barrier to reception of messages is [2010-JUNE]
 (A) Audience attitude
 (B) Audience knowledge
 (C) Audience education
 (D) Audience income
- 79.** Post-modernism is associated with [2010-JUNE]
 (A) Newspapers
 (B) Magazines
 (C) Radio
 (D) Television
- 80.** Didactic communication is [2010-JUNE]
 (A) Intra-personal
 (B) Inter-personal
 (C) Organisational
 (D) Relational
- 81.** In communication, the language is [2010-JUNE]
 (A) The non-verbal code
 (B) The verbal code
 (C) The symbolic code
 (D) The iconic code
- 82.** Identify the correct sequence of the following: [2010-JUNE]
 (A) Source, channel, message, receiver
 (B) Source, receiver, channel, message
 (C) Source, message, receiver, channel
 (D) Source, message, channel, receiver
- 83.** Assertion (A) : Mass media promote a culture of violence in the society. Reason (R): Because violence sells in the market as people themselves are violent in character. [2010-JUNE]
 (A) Both (A) and (R) are true and (R) is the correct explanation of (A) .
 (B) Both (A) and (R) are true, but (R) is not the correct explanation of (A) .
 (C) (A) is true, but (R) is false.
 (D) Both (A) and (R) are false.
- 84.** The country which has the distinction of having the two largest circulated newspapers in the world is [2009-DECEMBER]
 (A) Great Britain
 (B) The United States
 (C) Japan
 (D) China
- 85.** The chronological order of non-verbal communication is [2009-DECEMBER]
 (A) Signs, symbols, codes, colours
 (B) Symbols, codes, signs, colours
 (C) Colours, signs, codes, symbols
 (D) Codes, colours, symbols, signs
- 86.** Which of the following statements is not connected with communication? [2009-DECEMBER]

- (A) Medium is the message.
 (B) The world is an electronic cocoon.
 (C) Information is power.
 (D) Telepathy is technological.
- 87.** Communication becomes circular when [2009-DECEMBER]
 (A) the decoder becomes an encoder
 (B) the feedback is absent
 (C) the source is credible
 (D) the channel is clear
- 88.** The site that played a major role during the terrorist attack on Mumbai (26/11) in 2008 was [2009-DECEMBER]
 (A) Orkut
 (B) Facebook
 (C) Amazon.com
 (D) Twitter
- 89.** Assertion (A) : For an effective classroom communication at times it is desirable to use the projection technology. [2009-DECEMBER]
 Reason (R): Using the projection technology facilitates extensive coverage of course contents.
 (A) Both (A) and (R) are true, and (R) is the correct explanation.
 (B) Both (A) and (R) are true, but (R) is not the correct explanation.
 (C) (A) is true, but (R) is false.
 (D) (A) is false, but (R) is true.
- 90.** Which one of the following Telephonic Conferencing with a radio link is very popular throughout the world? [2009-JUNE]
 (A) TPS
 (B) Telepresence
 (C) Video conference
 (D) Video teletext
- 91.** Which is not 24 hours news channel? [2009-JUNE]
 (A) NDTV24x7
 (B) ZEE News
 (C) Aajtak
 (D) Lok Sabha channel
- 92.** The main objective of F.M. station in radio is: [2009-JUNE]
 (A) Information, Entertainment and Tourism
 (B) Entertainment, Information and Interaction
 (C) Tourism, Interaction and Entertainment
 (D) Entertainment only
- 93.** In communication chatting in internet is: [2009-JUNE]
 (A) Verbal communication
 (B) Non verbal communication
 (C) Parallel communication
 (D) Grapevine communication
- 94.** Match List-I with List-II and select List-I the correct answer using the codes gh List-II [2009-JUNE]
- | (Artists) | (Art) |
|--------------------|-------------------------|
| (a) Pandit Jasraj | (i) Hindustani vocalist |
| (b) Kishan Maharaj | (ii) Sitar |
| (c) Ravi Shankar | (iii) Tabla |
| (d) Udai Shankar | (iv) Dance |
- (A) a- (i) ,b- (ii) ,c- (iii) ,d- (iv)
 (B) a- (i) ,b- (iii) ,c- (iv),d- (ii)
 (C) a- (i) ,b- (iii) ,c- (ii) ,d- (iv)
 (D) a- (iii) ,b- (ii) ,c- (i) ,d- (iv)
- 95.** Community Radio is a type of radio service that caters to the interest of: [2008-DECEMBER]
 (A) Local audience

- (B) Education
- (C) Entertainment
- (D) News

96. Orcut is a part of:[2008-DECEMBER]

- (A) Intra personal Communication
- (B) Mass Communication
- (C) Group Communication
- (D) Interpersonal Communication

97. Match List-I with List-II and select the correct answer using the codes given below:[2008-DECEMBER]

List-I	List - II
(Artists)	(Art)
(a) Amrita Shergill	(i) Flute
(b) T. Swaminathan Pillai	(ii) Classical Song
(c) Bhimsenjoshi	(iii) Painting
(d) Padma Subramaniam	(iv) Bharat Natyam

- (A) a-(iii) ,b- (i) ,c- (ii) ,d- (iv)
- (B) a- (ii) ,b- (iii) ,c- (i) ,d- (iv)
- (C) a- (iv) ,b- (ii) ,c- (iii) ,d- (i)
- (D) a- (i) ,b- (iv) ,c- (ii) ,d- (iii)

98. Which is not correct in latest communication award?[2008-DECEMBER]

- (A) Salman Rushdie - Booker's Prize - July 20, 2008
- (B) Dilip Sanghavi - Business Standard CEO Award July 22, 2008
- (C) Tapan Sinha - Dada Saheb Falke Award, July 21, 2008
- (D) Gautam Ghosh - Osians Lifetime Achievement Award July 11, 2008

99. Firewalls are used to protect a communication network system against:[2008-DECEMBER]

- (A) Unauthorized attacks
- (B) Virus attacks
- (C) Data-driven attacks
- (D) Fire-attacks

100. Communication with oneself is known as: [2008-JUNE]

- (A) Group communication
- (B) Grapevine communication
- (C) Interpersonal communication
- (D) Intrapersonal communication

101. Which broadcasting system for TV is followed in India? [2008-JUNE]

- (A) NTSE
- (B) PAL
- (C) SECAM
- (D) NTCS

102. All India Radio before 1936 was known as: [2008-JUNE]

- (A) Indian Radio Broadcasting
- (B) Broadcasting Service of India
- (C) Indian Broadcasting Service
- (D) All India Broadcasting Service

103. The biggest news agency of India is: [2008-JUNE]

- (A) PTI
- (B) UNI
- (C) NANAP
- (D) Samachar Bharati

104. Prasar Bharati was launched in the year: [2008-JUNE]

- (A) 1995
- (B) 1997
- (C) 1999
- (D) 2001

105. DTH service was started in the year: [2007-DECEMBER]

- (A) 2000
- (B) 2002
- (C) 2004
- (D) 2006

- 106.** National Press day is celebrated on:
[2007-DECEMBER]
(A) 16th November
(B) 19th November
(C) 21th November
(D) 30th November
- 107.** The total number of members in the Press Council of India are: [2007-DECEMBER]
(A) 28
(B) 14
(C) 17
(D) 20
- 108.** The right to impart and receive information is guaranteed in the Constitution of India by Article: [2007-DECEMBER]
(A) 19 (2) (a)
(B) 19(16)
(C) 19(2)
(D) 19(1) (a)
- 109.** Use of radio for higher education is based on the presumption of: [2007-DECEMBER]
(A) Enriching curriculum based instruction
(B) Replacing teacher in the long run
(C) Everybody having access to a radio set
(D) Other means of instruction getting outdated
- 110.** Press Council of India is located at: [2007-JUNE]
(A) Chennai
(B) Mumbai
(C) Kolkata
(D) Delhi
- 111.** Adjusting the photo for publication by cutting is technically known as: [2007-JUNE]
(A) Photo cutting
(B) Photo bleeding
(C) Photo cropping
(D) Photo adjustment
- 112.** Feed-back of a message comes from: [2007-JUNE]
(A) Satellite
(B) Media
(C) Audience
(D) Communicator
- 113.** Collection of information in advance before designing communication strategy is known as: [2007-JUNE]
(A) Feed-back
(B) Feed-forward
(C) Research study
(D) Opinion poll
- 114.** The aspect ratio of TV screen is: [2007-JUNE]
(A) 4:3
(B) 4:2
(C) 3:5
(D) 2:3
- 115.** Which one of the following can be termed as verbal communication? [2006-DECEMBER]
(A) Prof. Sharma delivered the lecture in the class room.
(B) Signal at the cross-road changed from green to orange.
(C) The child was crying to attract the attention of the mother.
(D) Dipak wrote a letter for leave application.
- 116.** Which is the 24 hours English Business news channel in India? [2006-DECEMBER]
(A) Zee News
(B) NDTV 247
(C) CNBC
(D) India News

- 117.** Consider the following statements in communication: [2006-DECEMBER]
- Hema Malini is the Chairperson of the Childrens Film Society, India.
 - Yash Chopra is the Chairman of the Central Board of Film Certification of India.
 - Sharmila Tagore is the Chairperson of National Film Development Corporation.
 - Dilip Kumar, Raj Kapoor and Preeti Zinta have all been recipients of Dada Saheb Phalke Award.
- Which of the statements given above is/are correct? [2006-DECEMBER]
- (i) and (iii)
 - (ii) and (iii)
 - (iv) only
 - (iii) only
- 118.** Which of the following pair is not correctly matched? [2006-DECEMBER]
- N. Ram: The Hindu
 - Barkha Dutt : Zee News
 - Pranay Roy: NDTV 247
 - Prabhu Chawla: Aaj taak
- 119.** Because you deserve to know is the punchline used by: [2006-DECEMBER]
- The Times of India
 - The Hindu
 - Indian Express
 - Hindustan Times
- 120.** Which is the dress of the heroine in Veer-Zaara? [2006-DECEMBER]
- Traditional Gujarati Clothes
 - Traditional Bengali Clothes
 - Traditional Punjabi Clothes
 - Traditional Madras Clothes
- 121.** The function of mass communication of supplying information regarding the processes, issues, events and societal developments is known as: [2006-JUNE]
- content supply
 - surveillance
 - gratification
 - correlation
- 122.** The science of the study of feedback systems in humans, animals and machines is known as: [2006-JUNE]
- cybernetics
 - reverse communication
 - selectivity study
 - response analysis
- 123.** Networked media exist in inter-connected: [2006-JUNE]
- social environments
 - economic environments
 - political environments
 - technological environments
- 124.** The combination of computing, telecommunications and media in a digital atmosphere is referred to as: [2006-JUNE]
- online communication
 - integrated media
 - digital combine
 - convergence
- 125.** A dialogue between a human-being and a computer programme that occurs simultaneously in various forms is described as: [2006-JUNE]
- man-machine speak
 - binary chat
 - digital talk
 - interactivity
- 126.** 'SITE' stands for: [2006-JUNE]
- System for International technology and Engineering
 - Satellite Instructional Television Experiment
 - South Indian Trade Estate
 - State Institute of Technology and Engineering

- 127.** Level C of the effectiveness of communication is defined as: [2005-DECEMBER]
 (A) channel noise
 (B) semantic noise
 (C) psychological noise
 (D) source noise
- 128.** Recording a television programme on a VCR is an example of: [2005-DECEMBER]
 (A) time-shifting
 (B) content reference
 (C) mechanical clarity
 (D) media synchronisation
- 129.** A good communicator is the one who offers to his audience: [2005-DECEMBER]
 (A) plentiful of information
 (B) a good amount of statistics
 (C) concise proof
 (D) repetition of facts
- 130.** The largest number of newspapers in India is published from the state of: [2005-DECEMBER]
 (A) Kerala
 (B) Maharashtra
 (C) West Bengal
 (D) Uttar Pradesh
- 131.** Which of the following statement is correct? [2005-DECEMBER]
 (A) Communicator should have fine senses
 (B) Communicator should have tolerance power
 (C) Communicator should be soft spoken
 (D) Communicator should have good personality
- 132.** Communications bandwidth that has the highest capacity and is used by microwave, cable and fibre optics lines is known as: [2005-DECEMBER]
 (A) hyper-link
 (B) broadband
 (C) bus width
 (D) carrier wave
- 133.** An electronic bill board that has a short text or graphical advertising message is referred to as: [2005-DECEMBER]
 (A) bulletin
 (B) strap
 (C) bridge line
 (D) banner
- 134.** A negative reaction to a mediated communication is described as: [2005-DECEMBER]
 (A) flak
 (B) fragmented feedback
 (C) passive response
 (D) non-conformity
- 135.** Match List-I with List-II and choose the correct answer using the codes given below: [2004-DECEMBER]
- | List-I | List-II |
|------------------------|--------------------|
| (Distinguished Ladies) | (Area of work) |
| a) Jhumpa Lahiri | (i) Journalist |
| b) Barkha Dutt | (ii) Novel Writing |
| c) Aparna Sen | (iii) Film Actress |
| d) Smita Patil | (iv) Film Director |
- (A) a- (iv),b- (iii),c- (ii) ,d- (i)
 (B) a- (ii) ,b- (i) ,c- (iv),d- (iii)
 (C) a-(iv) ,b- (i) ,c- (iii),d- (ii)
 (D) a-(ii) ,b- (iii),c- (iv),d- (i)
- 136.** Which of the following pair is not correctly matched? [2004-DECEMBER]
 (A) Aajtaak - 24 hours news channel
 (B) F.M. Stations - Radio
 (C) National Geography channel - Television
 (D) Vir Sanghvi - India Today

- 137.** Which is the oldest soap opera tele-casted in India? [2004-DECEMBER]
- (A) Kahani Ghar Ghar Ki
 - (B) Buniad
 - (C) Humlog
 - (D) Saas Bhi Kabhi Bahu Thee
- 138.** Which satellite channel uses the ad-line, Knowing is everything? [2004-DECEMBER]
- (A) BBC World
 - (B) Star
 - (C) Sony
 - (D) Zee
- 139.** Which is the First made in India Kids channel of television ? [2004-DECEMBER]
- (A) Cartoon Network
 - (B) Walt Disney
 - (C) United Home Entertainment's Hungama TV
 - (D) Nick Jr.

4. People and Environment

Our human society is supported by environment all over the years till today. Environment and people have mutual understanding and interdependence, basically all the living creatures is dependent on environment for their primary or secondary needs. Our main motive is to protect the environment rather than to destroy it so that it will sustain life for our future generations. We are destroying the environment by cutting the trees, making big industry. The world have already got signal about the destruction of the environment and if it continues then all the living creatures will wipe out from the planet. With this realization in mind, people are now working to save the environment. Today, whole world is trying to make green technology so that the environment is not under great pressure.

4.1 Environment

We human beings need water, fresh air and other essential ingredients to survive, which are part of our environment. As because we need nature or environments to survive , environmental resources like water, air, food, energy, land must be preserved in their natural from. Most of the natural resources like minerals, water, petroleum products are extracted from the nature continuously. Ecologist and scientist have recognized that if this processes going to be a continuous process then very soon in near future our natural environment will be degraded. Our natural resources is not reversible, if we extract them continuously it is not possible that it will reproduce again fully in near future.

4.1.1 Definition of environment

Everything in our surroundings which effect us during our lifetime is collectively known as our environment. In another words "Environment is sum total of water, air , land and interrelationships among themselves and also with the human being, other living organisms and property".

Definition 4.1 Definition of environment Other definition of environment are given below.

- The surroundings or conditions in which a person, animal, or plant lives or operates.
- The natural world, as a whole or in a particular geographical area, especially as affected by human activity.
- The natural environment encompasses all living and non-living things occurring naturally

on Earth or some region thereof. It is an environment that encompasses the interaction of all living species. Climate, weather, and natural resources that affect human survival and economic activity.

4.1.2 Components of environment

The environment is the physical and biological habitat that surrounds us, which we can feel by using our five organs. Broadly, we can classify environment as two types

1. **Physical environment**— the physical environment is also called Abiotic environment. For example, physical environment consist of air, water, and land etc.
2. **Living environment**— all the living organism surrounding ourselves is fall into the category of living environment. This is also called the Biotic environment

Earth's environment can be further subdivided into the following four segments

- | | |
|----------------|----------------|
| 1. Atmosphere | 3. Hydrosphere |
| 2. Lithosphere | 4. Biosphere |

4.1.2.1 Atmosphere

Atmosphere creates a protective shell over the earth. The atmosphere, which is a gaseous cover, protects the earth from cosmic radiations and provides life sustaining Oxygen, the macronutrient Nitrogen and Carbon dioxide needed for photosynthesis. The composition of atmosphere is shown in below table.

Gas	Volume
Nitrogen	78.1
Oxygen	20.9
Water vapour	0.1-5
Argon	0.9
Carbon dioxide	0.03
Trace constituents ¹	Balance

Table 4.1: the most common components of Earth's atmosphere

The Structure of the Atmosphere

The atmosphere is broadly divided into four major zones

- | | |
|-----------------|------------------|
| 1. Troposphere | 3. Mesosphere |
| 2. Stratosphere | 4. Thermo sphere |

Characteristics of these zones are pictorially shown in figure 4.1.

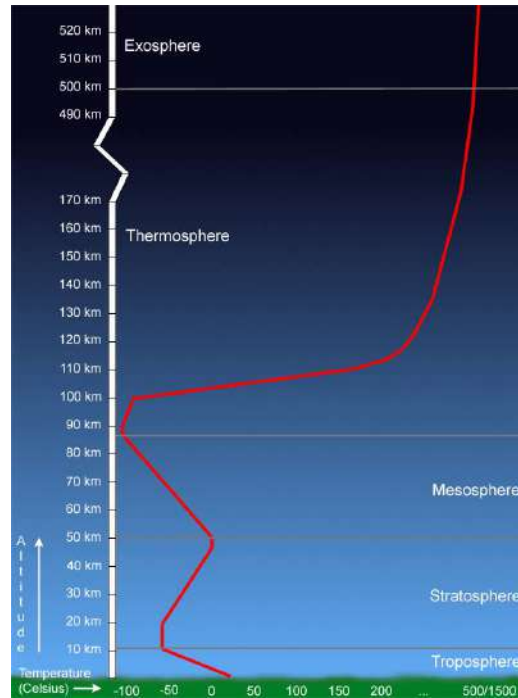


Figure 4.1: Structure of earth's atmosphere

1. **Troposphere**— The troposphere layer is near to the ground level of earth. In this layer, the composition of gases is nearly same throughout the layer. Most of the naughty activity of weather happens in this layer. The transition layer between troposphere and stratosphere is called Tropopause.
2. **Stratosphere**— The layer above the troposphere is called stratosphere where temperature increases with height. These layer is also known as “Ozone layer” because ozone gas is found in higher densities here. Stratosphere is hot layer because ozone absorbs radiant energy from the sun. The transition between the stratosphere and mesosphere is called Stratopause.
3. **Mesosphere**— Layer above the stratosphere is called mesosphere where temperature decreases with height. This layer is very cold. The transition layer between mesosphere and thermosphere is called Mesopause.
4. **Thermosphere**— Thermosphere is the layer above the mesosphere. In this layer, temperature increases with height. Here density of air is less and eventually we enter into space.

Figure 4.2 shows relationship between component and sub component among the four major Environmental components viz. Lithosphere, Hydrosphere, Atmosphere and Biosphere.

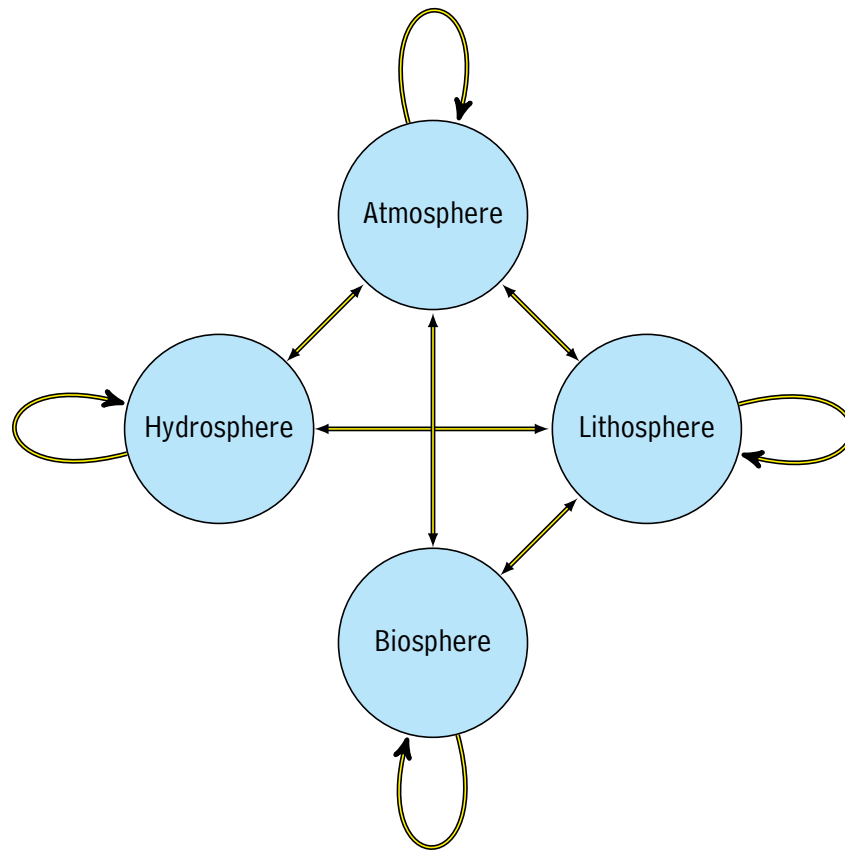


Figure 4.2: Relationship between component and sub component

4.1.2.2 Lithosphere

The crust of the earth containing rock, soil and sediments is called lithosphere. The soil is composed of inorganic and organic matter and water. The main minerals in lithosphere are composed of the elements silicon, calcium, potassium, aluminum, iron, manganese etc. The organic constituents are mainly organic compounds of *N*, *P* and *S*.

4.1.2.3 Hydrosphere

Hydrosphere layer comprised of 3/4th portion on earth. It mainly contains both surface and ground-water. Major constituents of hydrosphere are oceans, lakes, streams, rivers, water vapor and glacier. The distribution of water among these resources is as under table 4.2

water source	Volume in %
oceans and seas	96-97 %
glaciers and polar ice	2-3 %
Freshwater	< 1%

Table 4.2: The most common components of hydrosphere

4.1.2.4 Biosphere

Biosphere encircles the earth's surface where all the living things exist. This layer extends from 10,000 m below sea level to 6000 m above sea level. The biosphere covers parts of other segments of the environment viz. Lithosphere, Hydrosphere and Atmosphere. Biosphere is a biological environment where living organisms interact with physical environment for example soil, water and air.

4.2 How to Save Our Environment

In today's world, people, students, industrialists and the institutions are trying to use green technology or basically they are going green to save the environment. We can also save our environment up to a certain extent as follows:

1. Recycle everything.
2. Don't use electrical appliances if you can do it by hand.
3. Use cold water in the washer.
4. Re-use brown paper bags to line your trash can.
5. Re-use bread bags and produce bags.
6. Store food in re-usable containers.
7. Return hangers to the dry cleaners.
8. Donate unwanted goods.
9. Don't leave water running needlessly.
10. Turn your heat down and wear a sweater.
11. Turn off the lights and electrical appliances.
12. Flush the toilet less often.
13. Turn down the heat before you go on vacation.
14. Recycle your Christmas tree.
15. Start a compost pile.
16. Put up bird feeders, birdhouses, and birdbaths.
17. Pull weeds instead of using herbicides.
18. Use only organic fertilizers.
19. Take extra plastic and rubber pots back to the nursery.
20. Plant short, dense shrubs close to your home's foundation for insulation.
21. Use mulch to conserve water in your garden.
22. Keep your car tuned.
23. carpool.
24. Use public transit.
25. Ride your bike or walk.
26. Buy a more fuel-efficient car (such as a hybrid or bio-diesel).
27. Recycle your engine oil.
28. Keep your tires properly inflated to save gas.
29. Keep your wheels properly aligned to save your tires.
30. Don't litter our roads and highways.
31. Recycle office and computer paper, cardboard, etc.
32. Use scrap paper for informal notes to yourself and others.
33. Print or copy on both sides of the paper.
34. Use smaller paper for smaller memos.
35. Re-use manila envelopes and file folders.
36. Use washable dishes and glassware at the office.
37. Avoid buying products in plastic or Styrofoam containers.
38. Think twice about buying "disposable" products.
39. Buy disposable paper products instead of plastic ones.
40. Buy only energy-efficient appliances.
41. Bring your own bags.
42. Buy locally grown food and locally made products.
43. Don't buy products made from endangered animals.
44. Join a conservation organization.
45. Volunteer your time to conservation.

- | | |
|--|--|
| projects. | 49. Write your legislators about conservation issues in your community or state. |
| 46. Donate to conservation projects. | 50. Teach children to respect nature and the environment |
| 47. Switch to a vegetarian diet. | |
| 48. Encourage your family and friends to conserve. | |

4.3 How Do We Destroy the Environment?

Our environment is precious for ourselves and our future generation. So we must protect and do our best to keep our environment clean and healthy. It is our responsibility to make sure that the air is clean, the land and water are free of contaminants and toxins. We should protect our planet from harness and we should not harming it by poisoning it with chemicals, toxins and other industrial pollutants. We only have one home, so why should we be so careless with it? What about our children and what about their children? What will their environment look and smell like? . Now we should know, what makes to destroy our peaceful environment. There are lots of ways a human can destroy our environment. Here are top 10 causes for the environmental damages.

1. **High quantity of Exhaust gases**— the biggest reason for environmental degradation is the exploration of poisonous gases from industry. Some of the dangerous gases are CO_2 , SO_2 and NH_3 . Of course there are many more, and these are the main culprits for ozone holes and global warming.
2. **Deforestation**— Human beings have been cutting down trees indiscriminately to create land for farming and housing to meet the needs of the ever-increasing human population. As the human population has increased, human requirement of firewood, furniture and wood for industrial and agricultural uses also increased. This has resulted in large-scale cutting of trees, leading to deforestation.
Many birds and animals have been rendered homeless due to loss of their habitat. As a result, many of them have had to migrate to different places. Many species of birds and animals like tiger and panther cannot survive except in forest.
Many carnivorous animals have turned man-eaters, as they do not get sufficient food in the forest. Destruction of habitat leads to extinction of some species. The disturbs the balance in nature.
3. **High number of industries such as mining**— mining industry is one of the culprit for damaging our environment mainly because of it releases particular matter, which qualifies as Respirable Particulate Matter (RPM); the particulate matter which can enter our lungs and can harm the entire respiratory system.
4. **Chemical effluents**— Effluents are another by-product of industries which poses threat to the environment. Leather and tanning industries, petroleum industries and chemical manufacturing industries create major waste products which are released directly into nearby streams without treatment, creating river pollution and causing harm to aquatic life.
5. **Transport**— the cars becomes available more and more, the number of vehicles on the road are increasing. Amount of gas created by cars directly affects human. Smog is a nuisance that is created because of vehicular pollution, and Hydro-Carbons released from engines are the cause of creation of lower level ozone that is harmful to humans.
6. **Unprecedented Construction**— unprecedented construction trap solar radiation by concrete and cement . Concrete and cement trap heat extremely well.
7. **Secondary Pollutants**— Secondary pollutants are ones that are not directly emitted; however they get created when primary pollutants react amongst themselves. Major amongst them

is the creation of ozone from reaction between non-burnt Hydrocarbons and Nitrous Oxides.

8. **Agricultural policy**— soil degradation is a continuous policy which leads to the desertification and degradation of soil quality. Moreover, overloading the land by using chemical fertilization and poison makes our environment degraded.
9. **Increasing population**— The increasing population creates a load that the entire environment has to support, not only in terms of food and lodging, but also in terms of the amount of waste that it generates.
10. **Hunting**— Human beings have destroyed large number of birds and animals by hunting. Hunting is done either for sport, for food or for greed. Tigers, panthers, deers, crocodiles, snakes, etc., are killed for their skins. Elephants are killed for their tusks, peacocks for feathers and a large variety of birds and animals hunted for food. Indiscriminate hunting of animals can lead to their extinction. Scientists say if immediate measures are not taken then about 25% of all the animal species will become extinct in the next 25 years.

4.4 Ecosystem

To survive in the earth, all the living beings create groups and they compete with each other. An ecosystem is a complex set of relationship among the living resources, habitats, and residents of an area. Ecosystem consists of plants, animals, birds, water, soil and people. A healthy ecosystem is called sustainable. This means all the elements in the system is in balance and are capable of reproducing themselves. Ecology is the study of interrelationship among plants and animals and their interactions with the physical environment.

We can classify ecology into two broad categories

1. **Autoecology**— it is the study of an individual species. For example, behavior, adaptation and interaction of a particular species in its own environment. Autoecology is also known as species ecology.
2. **Synecology**— it is the study of communities and their interaction with the environment. Synecology is also known as ecology of communities.

Examples of large eco systems are rain forests, deserts, salt marshes, coral reefs, lakes and ponds, open ocean, grass lands etc.

4.4.1 Types of ecosystem

The main two kinds of ecosystem are terrestrial and aquatic. Any other sub ecosystem falls under one of these two categories.

4.4.1.1 Terrestrial ecosystem

One can find terrestrial ecosystem anywhere except heavily saturated places. It is further classified into following categories

1. Forest ecosystem
 - Tropical evergreen forest
 - Tropical deciduous forest
 - Temperature evergreen forest
 - Temperature deciduous forest
 - Taiga
2. The desert ecosystem
3. Grassland ecosystem
4. Mountain ecosystem

1. **Forest ecosystem**— They are the ecosystems in which an abundance of flora, or plants, is seen so they have a big number of organisms which live in relatively small space. Therefore, in forest ecosystems the density of living organisms is quite high. A small change in this ecosystem could affect the whole balance, effectively bringing down the whole ecosystem.
 - a. **Tropical evergreen forest:** tropical evergreen forest are areas where mean rainfall of 80 for every 400 inches annually happen. Here forest is dense and it comprises of tall trees of different heights.
 - b. **Tropical deciduous forest:** Here, shrubs and dense bushes rule along with a broad selection of trees. This type of forest is found in quite a few parts of the world while a large variety of fauna and flora are found there.
 - c. **Temperate evergreen forest:** Those have quite a few number of trees as mosses and ferns make up for them. Trees have developed spiked leaves in order to minimize transpiration.
 - d. **Temperate deciduous forest:** The forest is located in the moist temperate places that have sufficient rainfall. Summers and winters are clearly defined and the trees shed the leaves during the winter months.
 - e. **Taiga:** It is situated just before the arctic regions, the taiga is defined by evergreen conifers. As the temperature is below zero for almost half a year, the remainder of the months, it buzzes with migratory birds and insects.
2. **Desert ecosystem**— Desert ecosystem is located in the regions where annual rainfall is very less. The area of desert ecosystem is 17% of the total land area on our planet. Due to the extremely high temperature, low water availability and intense sunlight, fauna and flora are scarce and poorly developed. The vegetation is mainly shrubs, bushes, few grasses and rare trees.
3. **Grassland ecosystem**— Grassland ecosystem is located in both the tropical and temperature region of the world. It has variety of grasses, harps, insects depending on climatic conditions and temperature. The grasslands are degraded day by day because of overgrazing. The two main kinds of grasslands ecosystems are:
 - a. **Savanna**— The tropical grasslands are dry seasonally and have few individual trees. They support a large number of predators and grazers.
 - b. **Prairies**— It is temperate grassland, completely devoid of large shrubs and trees. Prairies could be categorized as mixed grass, tall grass and short grass prairies.
4. **Mountain ecosystem**— Mountain land provides a scattered and diverse array of habitats where a large number of animals and plants can be found. At the higher altitudes, the harsh environmental conditions normally prevail, and only the treeless alpine vegetation can survive. The animals that live there have thick fur coats for prevention from cold and hibernation in the winter months. Lower slopes are commonly covered with coniferous forests.

4.4.1.2 Aquatic ecosystem

The aquatic ecosystem is the ecosystem found in a body of water. It encompasses aquatic flora, fauna and water properties, as well. There are two main types of aquatic ecosystem

1. Marine
2. Freshwater
1. **The Marine Ecosystem**— Marine ecosystems are the biggest ecosystems, which cover around 71% of Earth's surface and contain 97% of our planet's water. Water in Marine ecosystems features in high amounts minerals and salts dissolved in them. The different divisions of the

marine ecosystem are:

- **Oceanic**— A relatively shallow part of oceans which lies on the continental shelf.
- **Profundal**— Deep or Bottom water.
- **Benthic**— Bottom substrates.
- **Inter-tidal**— The place between low and high tides.
- Estuaries
- Coral reefs
- Salt marshes
- Hydrothermal vents where chemosynthetic bacteria make up the food base.

Many kinds of organisms live in marine ecosystems: the brown algae, corals, cephalopods, echinoderms, dinoflagellates and sharks.

2. **The Freshwater Ecosystem**— Contrary to the Marine ecosystems, the freshwater ecosystem covers only 0.8% of Earth's surface and contains 0.009% of the total water. Three basic kinds of freshwater ecosystems exist:

- **Lentic**— Slow-moving or still water like pools, lakes or ponds.
- **Lotic**— Fast-moving water such as streams and rivers.
- **Wetlands**— Places in which the soil is inundated or saturated for some lengthy period of time. The ecosystems are habitats to reptiles, amphibians and around 41% of the world's fish species. The faster moving turbulent waters typically contain a greater concentrations of dissolved oxygen, supporting greater biodiversity than slow moving waters in pools.

4.4.2 Characteristics of ecosystem

Following are the typical characteristics of any ecosystem.

1. It is normally an open system with a continuous, but variable influx and loss of materials and energy.
2. An ecosystem is an overall integration of the whole mosaic of interacting organisms and their environment.
3. It is a basic, functional unit with no limits of boundaries.
4. It consists of biotic and abiotic components interacting with each other.
5. Its functional unit is capable of energy transformation, circulation and accumulation.
6. An ecosystem is the smallest unit of biosphere.
7. Different types of ecosystem are present in different areas.

4.4.3 Component of ecosystem

The structure of an ecosystem is basically a description of the species of organisms that are present, including information on their life histories, populations and distribution in space. The structure of ecosystem provides information about the range of climatic conditions that prevail in the area. From structural point of view all ecosystems consist of following four basic components.

1. Abiotic Substances
2. Producers/autotrophs
3. Consumers/heterotrophs
4. Decomposers

We can classify the parts of an ecosystem by listing them under the headings “abiotic” and “biotic”.

Abiotic Substances	Biotic Substances
Sunlight	Primary producers
Temperature	Herbivores
Precipitation	Carnivores
Water or moisture	Omnivores
Soil or water chemistry (e.g., P, NH ₄ ⁺)	Detritivores

Table 4.3: Abiotic and Biotic components

- Abiotic components**— These include basic inorganic and organic compounds of the environment or habitat of the organism. The inorganic components of an ecosystem are carbon dioxide, water, nitrogen, calcium, phosphate, all of which are involved in matter cycles (biogeochemical cycles).

The organic components of an ecosystem are proteins, carbohydrates, lipids and amino acids, all of which are synthesized by the biota (flora and fauna) of an ecosystem and are reached to ecosystem as their wastes, dead remains, etc, The climate, temperature, light, soil, etc., are other abiotic components of the ecosystem.
- Producers/autotrophs**— Producers are autotrophic organisms like chemosynthetic and photosynthetic bacteria, blue green algae, algae and all other green plants. They are called ecosystem producers because they capture energy from non-organic sources, especially light, and store some of the energy form of chemical bonds, for the later use.
- Consumers/heterotrophs**— They are heterotrophic organisms in the ecosystem which eat other living creatures. There are herbivores, which eat plants, and carnivores, which eat other animals. They are also called phagotrophs or macroconsumers. Sometimes herbivores are called primary macroconsumers and carnivores are called secondary Macroconsumers.
- Decomposers**— Reducers, decomposers, saprotrophs or Macroconsumers are heterotrophic organisms that breakdown dead and waste matter. Fungi and certain bacteria are the prime representatives of this category. Enzymes are secreted by their cells into or onto dead plant and animal debris. These chemicals digest the dead organism into smaller bits or molecules, which can be absorbed by the fungi or bacteria (saprotrophs).

The decomposers take the energy and matter that they harvest during this feeding process for their own metabolism. Heat is liberated in each chemical conversion along the metabolic pathway.

No ecosystem could function long without decomposers. Dead organisms would pile up without rotting, as would waste products. It would not be long before an essential element, phosphorus, for example, would be first in short supply and then gone altogether, because the dead corpses littering the landscape would be hoarding the entire supply.

Thus, the importance of the decomposers to the ecosystem is that they tear apart organisms and in their metabolic processes release to the environment atoms and molecules that can be reused again by autotrophic organisms. They are not important to the ecosystem from the energy point of view but from the material (nutrient) point of view. Energy cannot be recycled, but matter can be.

Energy must be fed into ecosystem to keep up with the dissipation of heat or the increase in entropy.

4.4.4 Functions of ecosystem

Ecosystem functions are the biological, geochemical and physical processes and components that take place or occur within an ecosystem. Following are the four main functions of ecosystem.

- | | |
|-------------------------|---------------------------|
| 1. Regulating functions | 3. Provisioning functions |
| 2. Supporting functions | 4. Cultural functions |

Regulating function is also subdivided into following categories.

- | | |
|---------------------------|-------------------------------------|
| a) Gas regulation | f) Nutrient regulation |
| b) Climate regulation | g) Water treatment and assimilation |
| c) Disturbance regulation | h) Pollination |
| d) Water regulation | i) Biological control |
| e) Soil retention | j) Barrier effect of vegetation |

Supporting functions is subdivided into two categories

- | | |
|------------------------|-------------------|
| a) Supporting habitats | b) Soil formation |
|------------------------|-------------------|

Provisioning functions is subdivided as follows.

- | | |
|------------------|-----------------------------------|
| a) Food | d) Genetic resources |
| b) Raw materials | e) Provision of shade and shelter |
| c) Water supply | f) Pharmacological resources |

Cultural functions contains landscape opportunity

4.4.5 Energy flow in the ecosystem

All organisms require energy for growth, maintenance, reproduction, locomotion, etc. Hence, for all organisms there must be:

- | | |
|-----------------------|----------------------------|
| 1. A source of energy | 2. A loss of usable energy |
|-----------------------|----------------------------|

The diagram below shows how both energy and inorganic nutrients flow through the ecosystem. Nutrients (shown by dashed arrows) cycle through ecosystems in a closed loop, while energy (shown by dark arrows) is released at each stage.

In the flow of energy and inorganic nutrients through the ecosystem, a few generalizations can be made:

1. The ultimate source of energy (for most ecosystems) is the sun
2. The ultimate fate of energy in ecosystems is for it to be lost as heat.
3. Energy and nutrients are passed from organism to organism through the food chain as one organism eats another.
4. Decomposers remove the last energy from the remains of organisms.
5. Inorganic nutrients are cycled, energy is not.

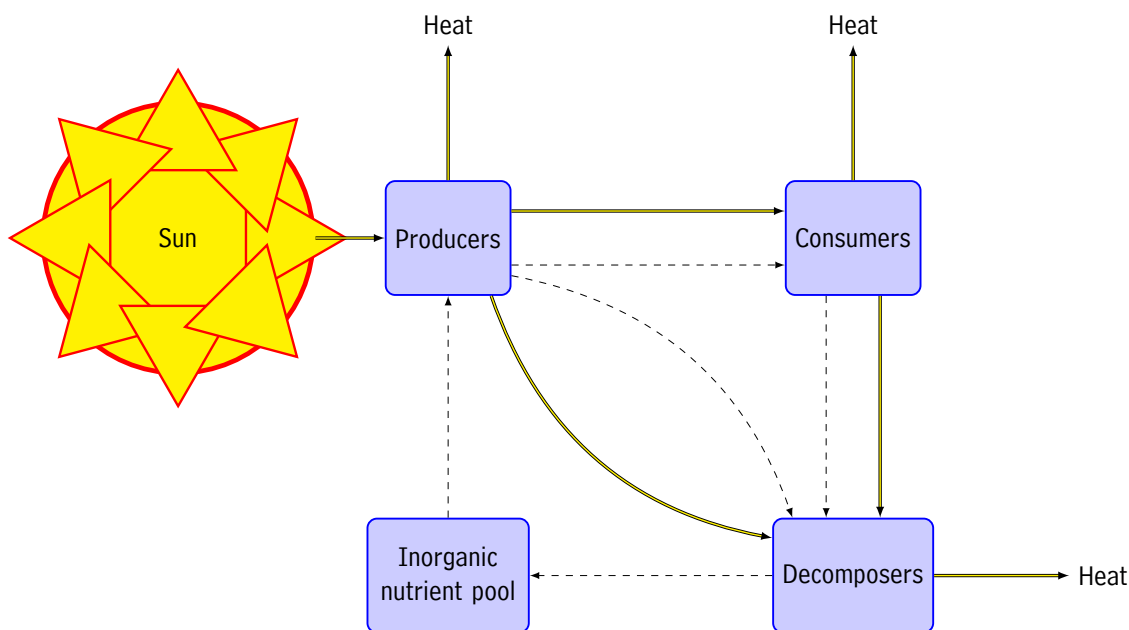


Figure 4.3: Energy flow in ecosystem

4.4.6 Biogeochemical cycle

While energy does not cycle through an ecosystem, chemicals do. The inorganic nutrients cycle through more than the organisms, however, they also enter into the atmosphere, the oceans, and even rocks. Since these chemicals cycle through both the biological and the geological world, we call the overall cycles biogeochemical cycles. Each chemical has its own unique cycle, but all of the cycles do have some things in common.

The most important and common biogeochemical cycles are :

- | | | |
|-----------------------|-------------------|----------------------|
| 1. Hydrological Cycle | 3. Nitrogen Cycle | 5. Sulphur Cycle |
| 2. Carbon Cycle | 4. Oxygen Cycle | 6. Phosphorous Cycle |

- Hydrological cycle**— In the hydrological cycle or water cycle, energy is supplied by the sun, which drives evaporation whether it be from ocean surfaces or from treetops. There is a constant and continuous exchange of water between air, land, sea and living beings. The energy of Sun makes water to vapour (clouds). Clouds moved from one place to another place. Cloud condenses from gas state and falls into the earth, this process is known as precipitation. The process in which liquid water becomes gaseous is called evaporation. hydrological cycle is the continuous and balanced process of evaporation, precipitation, transpiration and runoff of water.
- Carbon cycle**— Carbon is an essential component of all plant, animal and organic matter. The chief reservoirs for carbon dioxide are in the oceans and in rock. The atmosphere is an important source of carbon which is present in the form of carbon dioxide. Both plants and animals carry on CO_2 in respiration, but only plants (and other producers) can carry on photosynthesis. Carbon dioxide dissolves readily in water. Once there, it may precipitate (fall out of solution) as a solid rock known as calcium carbonate (limestone). The dead organic matter from plants and animals are decomposed by microorganisms releasing Carbon dioxide to the atmosphere. Burning of fossil fuels releases large quantities of carbon dioxide.

3. **Nitrogen cycle**— The nitrogen cycle is one of the most difficult of the cycles to learn, simply because there are so many important forms of nitrogen, and because organisms are responsible for each of the interconversion's. Nitrogen and its compounds form a vital ingredient in all forms of life in the biosphere. The main source of nitrogen is atmosphere, which is about 78% nitrogen. Nitrogen is a non-reactive gas. To break up the nitrogen gas, it needs lots of energy to combine with other things such as carbon or oxygen. Nitrogen gas cannot be directly absorbed by plants or producers. In order to be absorbed by the plants it has to be converted into water soluble compounds with elements like hydrogen, carbon and oxygen. This process is known as fixation of nitrogen. Fixation of nitrogen takes place by electrical storms, bacteria and algae. Synthetic fixation of Nitrogen is done by the manufacture of nitrogenous fertilizers through ammonia conversion route.
4. **Oxygen cycle**— Oxygen is released to the atmosphere by autotrophs during photosynthesis and taken up by both autotrophs and heterotrophs during respiration. In fact, all of the oxygen in the atmosphere is biogenic; that is, it was released from water through photosynthesis by autotrophs. It took about 2 billion years for autotrophs (mostly cyanobacteria) to raise the oxygen content of the atmosphere to the 21% that it is today; this opened the door for complex organisms such as multicellular animals, which need a lot of oxygen.
5. **Sulphur cycle**— Sulphur is mainly found on Earth as sulfates in rocks or as free sulfur. The largest deposits of sulfur in the United States are in Louisiana and Texas. Sulfur also occurs in combination with several metals such as lead and mercury, as PbS and HgS. Sulfur appears as the yellow aspects of soil in many regions.
Sulfur and its compounds are important elements of industrial processes. Sulfur dioxide (SO_2) is a bleaching agent and is used to bleach wood pulp for paper and fiber for various textiles such as wool, silk, or linen. SO_2 is a colorless gas that creates a choking sensation when breathed. It kills molds and bacteria. It is also used to preserve dry fruits, like apples, apricots, and figs, and to clean out vats used for preparing fermented foods such as cheese and wine.
6. **Phosphorous Cycle**— Phosphorus (P) is another one of the essential elements that cycle through the ecosystem. It is an element that is found in the ground and then taken up by plants and animals. Phosphorus starts its existence as phosphate ions (PO_4) in the rocks of the world. When it rains, the phosphates and other minerals are removed from the rocks and distributed in soils and the water all over the planet.

4.4.7 Ecological succession

“Ecological succession” is the observed process of change in the species structure of an ecological community over time. Within any community some species may become less abundant over some time interval, or they may even vanish from the ecosystem altogether. Similarly, over some time interval, other species within the community may become more abundant, or new species may even invade into the community from adjacent ecosystems. This observed change over time in what is living in a particular ecosystem is “ecological succession”

4.4.7.1 Types of succession

There are two main types of Ecological Succession

1. **Primary Succession**— The process of creating life in an area where no life previously existed. The development of an ecosystem in an area that has never had a community living within it occurs by a process called PRIMARY SUCCESSION. An example of an area in which a com-

munity has never lived before, would be a new lava or rock from a volcano that makes a new island.

2. **Secondary Succession**— It is the process of re-stabilization that follows a disturbance in an area where life has formed an ecosystem. Following are important points about secondary succession.
 - a. Organisms are destroyed but the soil is safe.
 - b. The soil already contains the seeds of weeds, grasses, and trees. More seeds are carried to the area by wind and birds.
 - c. Succession begins again but the primary species are different.
 - d. Because soil is present, this succession is faster.

Definition 4.2 A summary of changes that occur during succession.

1. Pioneer species colonize a bare or disturbed site. Soil building.
2. Changes in the physical environment occur (e.g., light, moisture).
3. New species of plants displace existing plants because their seedlings are better able to become established in the changed environment.
4. Newly arriving species alter the physical conditions, often in ways that enable other species to become established.
5. Animals come in with or after the plants they need to survive.
6. Eventually a climax community that is more or less stable will become established and have the ability to reproduce itself.
7. Disturbances will start the process of succession again.

4.4.8 Food chain

All energy comes from the sun. Plants harness the sun's energy by photosynthesis. We call plants producers because they produce energy from the sun directly. Many animals eat only plants—they are vegetarians. We call animals that eat plants primary (first) consumers. The next group, called the secondary consumers are carnivores or omnivores. They eat the primary consumers.

4.4.8.1 Animal Adaptation

Everything that affects an animal makes up its environment - where it lives, the weather and all the living things it comes into contact with. Every living thing, including people, has an effect upon the environment. All living things have to be suited to their environment if they are to survive. Fish have streamlined bodies, fins and specially shaped tails to help them move quickly and easily through the water. Squirrels have sharp, strong claws for gripping tree trunks and branches and strong teeth for eating nuts.

Definition 4.3 Some animals are said to be at the top of the food chain. This is because they are not hunted by other animals. No other animal hunts the lion. The lion is at the top of the food chain

1. A food chain shows which animals eat other animals or plants.
2. Plants don't eat things.
3. A food chain starts with what gets eaten and the arrows point towards what does the eating.
4. Food chains only go in one direction.

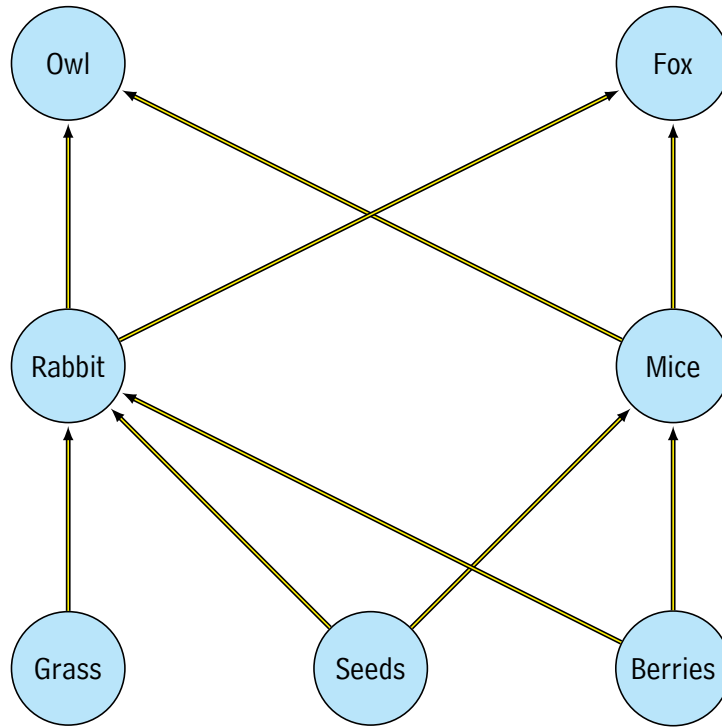


Figure 4.4: Food chain

4.4.8.2 Types of food chain

A food chain is a simplified way to look at the energy that passes from producers to consumers. Types of food chain is as follows:

1. **Aquatic**— Water-related food chains with sea plants and animals
2. **Terrestrial**— Land-related food chains with land plants and animals

4.4.9 Food web

In the wild, animals may eat more than one thing, so they belong to more than one food chain. To get the food they need, small herbivores may eat lots of different plants, and carnivores may eat many different animals. We can show this by using a food web, which is just a more complicated version of a food chain.

4.4.10 Some basic definitions

In this section we will learn some basic definition.

1. **Living things**— All living things (organisms) need food (nourishment) to live. Living things in an ecosystem depend on each other for food.
2. **Carnivores**— Some animals, like the kingfisher, eat only other animals. These animals are called “carnivores”.
3. **Herbivores**— Some animals do not eat other animals. They survive on plants and are known as “herbivores”.
4. **Omnivores**— Some animals, like us, eat both plants and animals. These animals are called “omnivores”.
5. **Consumers**— “Consume” means “eat”. Animals are consumers because they “eat” (con-

sume) food provided by plants or other animals.

6. **Producers**—Plants are living organisms. They need nourishment to survive. But plants do not eat other plants or animals. Plants are called producers, because they produce their own food using sunlight
7. **Predator**— A predator eats other animals. Cats eat fish. The cat is a predator, because it eats other animals. The bear is a predator, because it eats other animals. People are predators too.
8. **Prey**— Any animal which is hunted and killed by another animal for food is prey. Some animals are predators, some are prey - some are both. The predator eats the prey, and the prey gets eaten by the predator.
9. **Decomposers**—Microorganisms that are able to break down large molecules into smaller parts. Decomposers return the nutrients that are in a living thing to the soil.
10. **Food Chains**—A food chain shows what is eaten. Food chains always start with a plant. A food chain is the path by which energy passes from one living thing to another.

Food web is a more realistic way of looking at the relationship of plants and animals in an environment. Several food chains linked together. A predator from one food chain may be linked to the prey of another food chain

4.4.11 Ecological pyramid

An ecological pyramid is a graphical representation designed to show the number of organisms, energy relationships, and biomass of an ecosystem. Succeeding levels in the pyramid represents the dependence of the organisms at a given level on the organisms at lower levels. Three Types of Ecological Pyramids are

1. Pyramids of Production (Energy)
2. Pyramids of Biomass
3. Pyramids of Numbers

4.4.12 Institutions in environment

This is a list of environmental research institutes. These organizations undertake research on the sustainable management of resources, including water, energy and biodiversity.

1. Centre for Energy and Environmental Markets (CEEM)
2. Cooperative Research Centre
3. Environment Institute, University of Adelaide
4. Hawkesbury Institute for the Environment (HIE), University of Western Sydney
5. McMaster Institute of Environment and Health (MIEH)
6. International Center for Tropical Agriculture (CIAT) (Centro Internacional de Agricultura Tropical)
7. Environmental Assessment Institute (EAI)
8. Global Biodiversity Information Facility (GBIF) (secretariat)
9. National Environmental Research Institute of Denmark (NERI)
10. Estonian Environmental Research Centre (EERC)
11. Estonian Environmental Research Institute (operates within the EERC)
12. European Molecular Biology Laboratory (EMBL)
13. Finnish Environment Institute
14. Curie Institute (Paris)

15. Helmholtz Centre for Environmental Research
16. Wuppertal Institute for Climate, Environment and Energy
17. Center for Environmental Nuclear Research (CENR)
18. Center for Environmental Planning and Technology (CEPT)
19. Indian Agricultural Research Institute (IARI)
20. National Environmental Engineering Research Institute (NEERI)
21. The Energy and Resources Institute (TERI)
22. Israel Institute for Biological Research (IBR)
23. Institute of Ecosystem Study (CNR-ISE)
24. Institute of Cetacean Research (ICR)
25. Energy Research Centre of the Netherlands (ECN)
26. GNS Science (formerly the Institute of Geological and Nuclear Sciences)
27. Curie Institute (Warsaw)
28. National R&D Institute for Industrial Ecology - ECOIND
29. Mir Environmental Effects Payload (MEEP)
30. Korea Environment Institute (KEI)
31. National Institute of Environmental Research (NIER)
32. Stockholm Environment Institute.
33. Chartered Institute of Environmental Health (CIEH)
34. Durrell Institute of Conservation and Ecology
35. European Bioinformatics Institute (EBI)
36. Institute of Biological, Environmental and Rural Sciences (IBERS), Wales
37. Institute of Zoology (IoZ)
38. National Institute for Environmental eScience (NIEeS)
39. Oxford Environmental Change Institute
40. UCL Institute for Sustainable Resources (ISR)
41. Botanical Research Institute of Texas (BRIT)
42. Center for Environmental Legal Studies (CELS), USA
43. Conard Environmental Research Area (CERA), Iowa
44. Cooperative Institute for Arctic Research, Alaska
45. Cooperative Institute for Climate and Ocean Research (CICOR)
46. Cooperative Institute for Climate Applications and Research (CICAR)
47. Cooperative Institute for Climate Science (CICS)
48. Cooperative Institute for Limnology and Ecosystems Research (CILER)
49. Cooperative Institute for Marine and Atmospheric Studies (CIMAS)
50. Cooperative Institute for Mesoscale Meteorological Studies (CIMMS)
51. Cooperative Institute for Research in Environmental Sciences (CIRES)
52. Cooperative Institute for Research in the Atmosphere (CIRA)
53. Cornell Laboratory of Ornithology, New York
54. The Earth Institute, Columbia University, New York
55. Earth System Research Laboratory (ESRL)
56. Energy and Environmental Research Center (EERC), North Dakota
57. Environmental and Energy Study Institute (EESI), Washington DC
58. Florida Environmental Research Institute (FERI)
59. Florida Institute of Oceanography (FIO)
60. Global Energy Network Institute (GENI), California

61. Global Environment Facility (GEF), Washington DC (secretariat)
62. Institute on the Environment, University of Minnesota (IonE), St. Paul, MN
63. Integrated Taxonomic Information System (ITIS-North America), Washington DC (secretariat)
64. National Severe Storms Laboratory (NSSL)
65. National Snow and Ice Data Center (NSIDC)
66. Pacific Marine Environmental Laboratory (PMEL)
67. Property and Environment Research Center (PERC), Montana
68. Smithsonian Environmental Research Center (SERC)
69. UCLA Institute of the Environment, University of California at Los Angeles.
70. USC Wrigley Institute for Environmental Studies (WIES)
71. Yale Center for Environmental Law and Policy

4.5 Effects of human activities on environment

Natural environment is of crucial importance for social and economic life. We use the living world as

1. A resource for food supply
2. An energy source
3. A source for recreation
4. A major source of medicines
5. Natural resources for industrial products

Humans impact the environment in several ways. Common effects include decreased water quality, increased pollution and greenhouse gas emissions, depletion of natural resources and contribution to global climate change. Some of these are the direct result of human activities, whereas others are secondary effects that are part of a series of actions and reactions.

4.5.1 Agriculture

Modern agriculture is responsible for the loss of much wildlife and their habitats, through reduction and fragmentation of habitats and wildlife populations. The drainage of wetlands, the destruction of hedgerows and the intensive use of fertilizers and pesticides can all pose a threat to wildlife. Developing means of farming and agriculture is the reason humans live in the world they do today. It is a necessary means of survival, without which there would be famines all over the world. For thousands of years, agricultural was a natural process that did not harm the land it was done on. In fact, farmers were able to pass down their land for many generations and it would still be fertile as ever. However, modern agricultural practices have started the process of agricultural pollution. This process causes the degradation of the eco-system, land and environment due to the modern day by-products of agriculture.

No single cause can be attributed to the widespread agricultural pollution we face today. Agriculture is a complex activity in which the growth of crops and livestock have to be balanced perfectly. The process of agricultural pollution stems from the many stages their growth goes through. Following are the basic causes of agriculture pollution.

1. **Pesticides and Fertilizers**— To begin with, the earliest source of the pollution has been pesticides and fertilizers. Modern day pesticides & fertilizers have to deal with the local pests that have existed for hundreds of years along with the new invasive species. And so, they are laden with chemicals that are not found in nature.

Once they has been sprayed, it does not disappear completely. Some of it mixes with the

water and seeps into the ground. The rest of is absorbed by the plant itself. As a result, the local streams that are supplied water from the ground become contaminated, as do the animals that eat these crops and plants.

2. **Contaminated Water**— Contaminated water used for irrigation is one further source of pollution. Much of the water we use comes from ground water reservoirs, canals and through the rains. While plenty of it is clean and pure water, other sources are polluted with organic compounds and heavy metals. This happens due to the disposal of industrial and agricultural waste in local bodies of water.

As a result, the crops are exposed to water which has small amounts of mercury, arsenic, lead and cadmium dissolved in it. The process of agricultural pollution becomes harder to fight when such water poisons the livestock and causes crop failure.

3. **Soil Erosion and Sedimentation**— Further problems are caused by soil erosion and sedimentation. Soil is comprised of many layers and it is only the topmost layer that can support farming or grazing. Due to inefficient farming practices, this soil is left open for erosion and leads to declining fertility each year. Whether eroded by water or wind, all this soil has to be deposited somewhere or the other.

4.5.2 Land pollution

Land pollution, in other words, means degradation or destruction of earth's surface and soil, directly or indirectly as a result of human activities. Anthropogenic activities are conducted citing development, and the same affects the land drastically, we witness land pollution; by drastic we are referring to any activity that lessens the quality and/or productivity of the land as an ideal place for agriculture, forestation, construction etc. The degradation of land that could be used constructively in other words is land pollution.

Land Pollution has led to a series of issues that we have come to realize in recent times, after decades of neglect. The increasing numbers of barren land plots and the decreasing numbers of forest cover is at an alarming ratio. Moreover the extension of cities and towns due to increasing population is leading to further exploitation of the land. Land fills and reclamations are being planned and executed to meet the increased demand of lands. This leads to further deterioration of land, and pollution caused by the land fill contents. Also due to the lack of green cover, the land gets affected in several ways like soil erosion occurs washing away the fertile portions of the land. Or even a landslide can be seen as an example.

Below are the sources of land pollution:

1. **Deforestation and soil erosion**— Deforestation carried out to create dry lands is one of the major concerns. Land that is once converted into a dry or barren land, can never be made fertile again, whatever the magnitude of measures to redeem it are. Land conversion, meaning the alteration or modification of the original properties of the land to make it use-worthy for a specific purpose is another major cause. This hampers the land immensely. Also there is a constant waste of land. Unused available land over the years turns barren; this land then cannot be used. So in search of more land, potent land is hunted and its indigenous state is compromised with.
2. **Agricultural activities**— With growing human population, demand for food has increased considerably. Farmers often use highly toxic fertilizers and pesticides to get rid off insects, fungi and bacteria from their crops. However with the overuse of these chemicals, they result in contamination and poisoning of soil.
3. **Mining activities**— During extraction and mining activities, several land spaces are created

beneath the surface. We constant hear about land caving in; this is nothing but nature's way of filling the spaces left out after mining or extraction activity.

4. **Overcrowded landfills**— Each household produces tonnes of garbage each year. Garbage like aluminum, plastic, paper, cloth, wood is collected and sent to the local recycling unit. Items that can not be recycled become a part of the landfills that hampers the beauty of the city and cause land pollution.
5. **Industrialization**— Due to increase in demand for food, shelter and house, more goods are produced. This resulted in creation of more waste that needs to be disposed of. To meet the demand of the growing population, more industries were developed which led to deforestation. Research and development paved the way for modern fertilizers and chemicals that were highly toxic and led to soil contamination.
6. **Construction activities**— Due to urbanization, large amount of construction activities are taking place which has resulted in large waste articles like wood, metal, bricks, plastic that can be seen by naked eyes outside any building or office which is under construction.

4.5.3 Waterlogging and its effect

Water logging refers to the saturation of soil with water. Soil may be regarded as waterlogged when the water table of the groundwater is too high to conveniently permit an anticipated activity, like agriculture. In agriculture, various crops need air (specifically, oxygen) to a greater or lesser depth in the soil. Water logging of the soil stops air getting in.

- Definition 4.4**
1. Depletion of oxygen in root zone and increase of CO₂ due to water logging. An aerobic condition adversely affects micro-organisms while harmful organisms proliferate and restrict the plant growth.
 2. Physical or chemical and biological activities in the soil are disturbed due to low temp as a result of water logging. Thus pest and diseases infestation problem arises.
 3. Water logging makes field operations difficult on impossible.
 4. The adverse effects of water logging get accelerated when the capillary water brings salts from lower horizon of soil or they are present in the ground water used for irrigation.
 5. Water logging adversely affect the soil water plant relationship there by creating ecological imbalance.
 6. Secondary salinization caused by the salts which are brought up from lower horizon strict the uptake of moisture and nutrients in the plant roots and create toxic effect in the root system.
 7. Due to excess soluble salts the physical condition of soil deteriorates. Highly deteriorated alkali soils have very low infiltration rates. Most rainfall goes as runoff, causing crop damages in adjoining area.
 8. Crops yields reduced and some times crop failure due to inadequate uptake of moisture and nutrients and due to the injurious effect of salts or deteriorated soil condition.
 9. Fodders grown in slat-affected soils may contain high molybdenum in or selenium and low amount of zinc. The nutritional imbalance may cause disease in live stock.

4.5.3.1 Organic farming

Organic farming system in India is not new and is being followed from ancient time. It is a method of farming system which primarily aimed at cultivating the land and raising crops in such a way, as to keep the soil alive and in good health by use of organic wastes (crop, animal and farm wastes, aquatic wastes) and other biological materials along with beneficial microbes (biofertilizers) to re-

lease nutrients to crops for increased sustainable production in an eco friendly pollution free environment.

As per the definition of the United States Department of Agriculture (USDA) study team on organic farming “organic farming is a system which avoids or largely excludes the use of synthetic inputs (such as fertilizers, pesticides, hormones, feed additives etc) and to the maximum extent feasible rely upon crop rotations, crop residues, animal manures, off-farm organic waste, mineral grade rock additives and biological system of nutrient mobilization and plant protection”.

FAO suggested that “Organic agriculture is a unique production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles and soil biological activity, and this is accomplished by using on-farm agronomic, biological and mechanical methods in exclusion of all synthetic off-farm inputs”.

Definition 4.5 The key characteristics of organic farming include.

1. Protecting the long term fertility of soils by maintaining organic matter levels, encouraging soil biological activity, and careful mechanical intervention
2. Providing crop nutrients indirectly using relatively insoluble nutrient sources which are made available to the plant by the action of soil micro-organisms
3. Nitrogen self-sufficiency through the use of legumes and biological nitrogen fixation, as well as effective recycling of organic materials including crop residues and livestock manures
4. Weed, disease and pest control relying primarily on crop rotations, natural predators, diversity, organic manuring, resistant varieties and limited (preferably minimal) thermal, biological and chemical intervention
5. The extensive management of livestock, paying full regard to their evolutionary adaptations, behavioural needs and animal welfare issues with respect to nutrition, housing, health, breeding and rearing
6. Careful attention to the impact of the farming system on the wider environment and the conservation of wildlife and natural habitats

4.6 Natural resources

The Earth is rich in natural resources that we use everyday. These resources are any valuable material of geologic origin that can be extracted from the earth.

4.7 Energy resources

Energy is the ability to do work. The word ‘work’ means transferring energy from one place to another. energy is neither destroyed nor created. It can only be changed. Sources of energy for the modern industrial economy is shown.

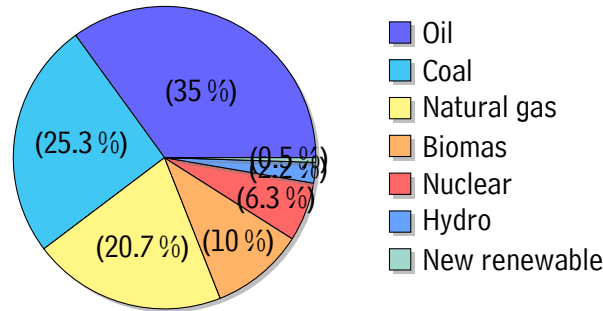


Figure 4.5: World energy production

4.7.1 Renewable and nonrenewable energy resources

Energy is the ability to do work. All forms of energy are stored in different ways. Energy sources we use every day. These sources are divided into 2 groups.

Nonrenewable source: A nonrenewable resource is a natural resource that cannot be re-made or re-grown at a scale comparable to its consumption. Coal, petroleum, and natural gas are considered nonrenewable because they can not be replenished in a short period of time. These are called fossil fuels. Nuclear fission uses uranium to create energy. Nuclear energy is a nonrenewable resource because once the uranium is used, it is gone. Example of nonrenewable energy are:

1. Oil
2. Coal
3. Natural gas
4. Nuclear

Renewable source Renewable resources are natural resources that can be replenished in a short period of time. Example of renewable energy are:

1. Solar
2. Geothermal
3. Wind
4. Biomass
5. Water
6. wave and tidal power

4.7.2 Fossil fuels

Fossil fuels give 85% of the world's commercial energy. Fossil fuels are highly combustible substances formed from remains of organisms from past geologic ages. Fossil fuels we burn today were formed from the tissues of organisms that lived 100-500 million years ago. Fossil fuels are produced only when organic materials are broken down in an anaerobic environment, one that has little or no oxygen. Bottoms of deep lakes, swamps, and shallow seas organic matter is eventually converted into crude oil, natural gas, or coal. It is said that we are using a million years worth of geological production every day.

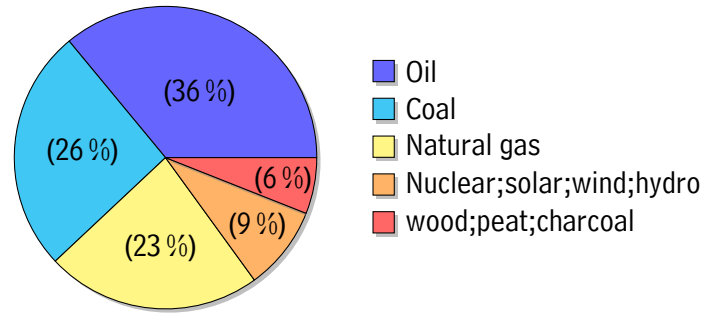


Figure 4.6: Commercial energy production

4.7.3 Coal energy

Coal is organic matter (woody plant material) that was compressed under very high pressure to form dense, solid carbon structures.

- Definition 4.6**
1. The Romans used coal for heating in the second and third centuries in Britain
 2. The Chinese have used coal for 2,000 - 3,000 years
 3. Commercial mining began in the 1700s
 4. The invention of the steam engine expanded coal's market
 5. Coal helped drive the Industrial Revolution and the steel industry
 6. In the 1880s, people used coal to generate electricity

Coal is mined from the surface and from below ground.

Subsurface mining In this case underground deposits are reached by digging networks of tunnels deep underground

Strip mining Here heavy machinery removes huge amounts of earth to expose and extract the coal

Mountaintop removal in some cases, entire mountaintops are cut off to obtain the coal.

Formation of coal as follows

1. **Peat** is compressed to form lignite, which is also known as brown coal
2. **Lignite** is compressed and volatile compounds are lost to form bituminous coal –soft coal
3. **Bituminous** coal is further compressed and heated to form anthracite– hard coal

4.7.4 Solar energy

It is the Ultimate Renewable Resource. It originates with the thermonuclear fusion reactions occurring in the sun. The surface receives about 47% of the total solar energy that reaches the Earth. Only this amount is usable.

Advantages of solar energy

Following are the main advantages of solar energy

1. All chemical and radioactive polluting byproducts of the thermonuclear reactions remain behind on the sun, while only pure radiant energy reaches the Earth.
2. Energy reaching the earth is incredible. By one calculation, 30 days of sunshine striking the Earth have the energy equivalent of the total of all the planet's fossil fuels, both used and unused

Disadvantages of solar energy

Following are the main Disadvantages of solar energy

1. Sun does not shine consistently.
2. Solar energy is a diffuse source. To harness it, we must concentrate it into an amount and form that we can use, such as heat and electricity

- Definition 4.7**
1. Argument that sun provides power only during the day is countered by the fact that 70% of energy demand is during daytime hours. At night, traditional methods can be used to generate the electricity.
 2. Our goal is to decrease our dependence on fossil fuels.
 3. Currently, 75% of our electrical power is generated by coal-burning and nuclear power plants.
 4. It mitigates the effects of acid rain, carbon dioxide, and other impacts of burning coal and counters risks associated with nuclear energy.
 5. It is pollution free, indefinitely sustainable.

4.7.5 Wind energy

The earth's winds are caused by pressure differences across the earth's surface due to uneven heating. An estimated 1% to 3% of energy from the Sun that hits the earth is converted into wind energy. The principle of wind is simple. The poles receive less energy than the equator does from the sun. Also land heats up and cools down more quickly than the seas. This difference between the seas and the land causes a global atmospheric convection system.

Local Winds: During the day the air over the land is heated more than the air over the sea. Opposite during the night.

Day pattern: Wind blows from sea to land

Night pattern: Wind blows from land to sea

4.7.6 Ocean thermal energy

Energy is available from the ocean by

1. Tapping ocean currents
2. Using the ocean as a heat engine
3. Tidal energy
4. Wave energy

ocean energy is replenished by the sun and through tidal influences of the moon's and sun's gravitational forces. Near-surface winds induce wave action and cause wind-blown currents at about 3% of the wind speed. Tides cause strong currents into and out of coastal basins and rivers. Ocean surface heating by some 70% of the incoming sunlight adds to the surface water thermal energy, causing expansion and flow. Wind energy is stronger over the ocean due to less drag, although technically, only sea breezes are from ocean energy.

- Definition 4.8**
1. There can be a 20° difference between ocean surface temps and the temp at 1000m
 2. The surface acts as the heat source, the deeper cold water acts as a heat sink.
 3. Temperature differences are very steady
 4. Florida, Puerto Rico, Hawaii and other pacific islands are well suited to take advantage of this idea, called OTEC (Ocean Thermal Energy Conversion)

4.7.7 Wave energy

Wave power is the transport of energy by ocean surface waves, and the capture of that energy to do useful work—for example, electricity generation, water desalination, or the pumping of water (into reservoirs). A machine able to exploit wave power is generally known as a wave energy converter (WEC).

- Definition 4.9**
1. 1799: First patent of a device designed to use ocean waves to generate power
 2. 1910: First oscillating water column was built by Bochaux-Praceique to power his house
 3. 1940s: Yoshio Masuda experimented with many concepts of wave power
 4. 2004: Wave power was delivered to an electrical grid for the first time

4.7.8 Tidal energy

Most of the energy sources we have been discussing derived their energy from the sun originally. Tides are driven by gravity. Gravity is a force that exists between any two objects based upon their mass and the distance between them

$$F_g = GmM/R^2$$

where M and m are the masses of the two objects, R is the distance between them and G is the gravitational constant $= 6.67300 \times 10^{-11} m^3 kg^{-1} s^{-2}$

The moon and Earth exert a force of gravity on each other. The motion of the moon around the Earth counteracts the Earth's pull, so the moon does not fall into the Earth. The moon's pull on the Earth causes any material that can flow on the Earth's surface, like large bodies of water, to pile up underneath the moon.

The sun also causes tides the Earth, though the effect is small, unless the sun and moon line up and work together (Spring tide) or are at right angles to each other and work against each other (neap tides). In areas where there are natural basins on the coastline, water flows in and out of these basins.

- Definition 4.10**
1. 787: simple technique of a waterwheel by the Spanish, French, and British
 2. 1966: "La Rance" tidal power plant went in operation.
 3. 2001: British Parliament states "the world can no longer neglect the massive potential of wave and tidal energy"
 4. 2002-present: Large investments in research and prototypes spark proposals in Turkey, China, and United States; among others

So there are regular, predictable motions in the oceans which could be used as an energy source.

4.7.9 Hydropower

Electricity produced from the water is called the hydropower or hydro-electric power. The falling water turns the water wheel or the turbine and electricity is generated. It is the most convenient and versatile form of energy. It plays a key role in agriculture and industrial development and nation's growth and productivity can be analyzed through the quantity of its energy consumption.

Since first five year plan, India is given much emphasis on generation of hydro-electric power from major hydro and mini hydel projects. These hydel projects also help in irrigation and fish

culture. Hence they are called multipurpose projects. Some of the important power projects are given below.

4.7.9.1 The Major Hydro Electricity Projects in India

Sivsamundra project of the river the Can very in Karnataka was the first major hydro-electric project in Asia. It was constructed in 1902. Then many major hydropower projects came into being. During first five year plan, much emphasis was given on generation of hydroelectricity and construction of a number of major river valley projects. Some of the important major hydropower projects are discussed below.

1. **Bhakra Nangal project**— The Bhakra Nangal project, on the river the Sutlej, with its four power stations at Nan gal, Bhakra, Ganguwal and Kotla is an important hydro power project. It has an installed capacity of 1.2 million KW. It supplies electricity to Punjab, Haryana and Delhi.
2. **The Damodar valley project**— The Damodar valley project, with its three hydel power stations at Tilaiya, Matron and Panchet is built on the river the ” Damodar. It has an installed capacity of 104 mw (megawaits) electricity. It supplies power to Bihar and West Bengal.
3. **The Hirakud dam project**—The major hydroelectricity power project in Orissa is the Hirakud Dam Project on the river the Mahanadi. Its capacity of generating power is 270.2 MW. The Rourkela Steel Plant mainly gets power supply from it.
4. **The Riband project**— It is essentially a hydroelectric project. It has an installed capacity of 300 MW. On the borders of Uttar Pradesh and Madhya Pradesh water is stored in form of a large lake and power is generated.
5. **The Chambal valley project**—On the river the Chambal, two power houses are constructed, one at Gandhi Sagar Dam in Madhya Pradesh and the other one at Kota in Rajasthan. The total installed capacity from both the power houses is 180 MW.
6. **The Koyana hydro electric project**—It is one of the largest projects in Maharashtra. The water of the Koyana, a tributary of the Krishna is utilized for power generation. The total capacity installed is 540 MW. It supplies electricity mainly to Bombay-Poona industrial belt.
7. **The Tungabhadra project**—This is a joint collaboration of Andhra Pradesh and Karnataka. The power house is built on the river the Tungabhadra. These are few hydroelectric projects. Apart from these, there are other projects like the Gandak hydroelectric project on the river the Gandak, and Parambikulam Aliyar on the river the Periyar. Some hydroelectric projects are there that are either completed or are on the verge of completion. Dulhasti, Uri and Salal (stage-II) (all in Jammu and Kashmir) hydroelectric projects, Chamera Stage-I (Himachal Pradesh) and Tanakpur hydro-electric project (UP) are important among them.

4.7.10 Geothermal energy

Geothermal energy is the heat energy stored beneath the surface in the form of hot spring! And geysers it is the exploitation of heat energy of earth within the upper 10 km of the earth crust. Heat from the molten core of the earth offers a huge and sustainable energy source.

Definition 4.11 The limitless heat from the interior of earth is used to convert water into steam. In volcanic regions of the earth, the hot rock is relatively close to the surface. Also in such regions sometimes, the natural groundwater comes in contact with the hot rock and the heated water or steam may find its way to the surface through natural steam vents.

In such regions, holes can be drilled into the hot rock groundwater structure and make the rising steam to drive turbo generators to produce electric power.

We utilise this type of heat for power generation. For developing countries, the overall projected potential was estimated at 400×10^{18} joule for geothermal energy with the projected capacity in 1990. Efforts are being made to use this energy for generating power and creating refrigeration. Geothermal energy can either be used to produce electricity in power station or can be used directly as primary heat.

Geothermal energy is a proven economical resource with energy technology. It has some environmental problems:

1. The steam brings hydrogen sulphide gas to the surface and pollutes the air unless controls are instituted.
2. Water contains many salts and minerals capable of causing water pollution.
3. The earth in a geothermal field may subside as the water is pumped out.

Geothermal energy is fast emerging as a significant source of electricity in several countries, mainly in the Indian oceans and the Pacific region. Indonesia is setting up two geothermal power plants, each of 55 MW capacities in Java.

4.7.11 Biomass energy

Biomass is organic material which has stored sunlight in the form of chemical energy. Biomass fuels include wood, wood waste, straw, manure, sugar cane, and many other byproducts from a variety of agricultural processes.

Biomass is a renewable energy source because the energy it contains comes from the sun. Through the process of photosynthesis, chlorophyll in plants captures the sun's energy by converting carbon dioxide from the air and water from the ground into carbohydrates, complex compounds composed of carbon, hydrogen, and oxygen. When these carbohydrates are burned, they turn back into carbon dioxide and water and release the sun's energy they contain. In this way, biomass functions as a sort of natural battery for storing solar energy. As long as biomass is produced sustainably—with only as much used as is grown—the battery will last indefinitely.

From the time of Prometheus to the present, the most common way to capture the energy from biomass was to burn it, to make heat, steam, and electricity. But advances in recent years have shown that there are more efficient and cleaner ways to use biomass. It can be converted into liquid fuels, for example, or cooked in a process called "gasification" to produce combustible gases. And certain crops such as switch grass and willow trees are especially suited as "energy crops," plants grown specifically for energy generation.

4.7.12 Nuclear fuels

Nuclear energy is energy that is generated through the use of Uranium, a natural metal that is mined all over the world. Nuclear energy is created through complex processes in nuclear power stations, and the first nuclear power station was established in 1956 in Cumbria, England. Today, many military operations and vessels use nuclear power plants and nuclear energy for their energy source, and nuclear energy is used in many other capabilities such that it provides 16% of the Earth's energy requirements.

Nuclear energy is created through chemical reactions that involve the splitting or merging of the atoms of nuclei together. The process of splitting an atom's nucleus is termed fission, and the process of merging the nuclei if atoms is termed merging. Converting nuclear masses into energy

forms is known through the popular chemical equation of $E = mc^2$, where E is known as the amount of energy released, m is known as the mass of the nuclei, and c is the value of the speed of light. The power from nuclear energy was first discovered in 1896 by Henri Becquerel, a French physicist who saw that some photographic plates that had been stored near uranium turned dark, or black, like X-Ray plates did. Thus, Uranium was seen as a resource for nuclear energy.

Nuclear energy is created in nuclear power stations, where uranium rods are the fuel used to create the energy or heat. The process through fission, where neutrons in the Uranium smash into the nucleus of atoms of Uranium. The Uranium nuclei will then split in half and release an energy that comes in a form of heat. At this point, carbon dioxide in gas form will be pumped into the reactors with the Uranium, removing the heat from the system. The gas turns very hot, and this heat is used to heat water into steam. The steam created from this process will drive the turbines which in turn drive the generators that produce the nuclear energy.

The nuclear power reactor that is creating all of these reactions is controlled through rods of boron, known as control rods. These Boron rods absorb the neutrons. The rods will be lowered into the reactor to absorb neutrons and slow down the process of fission. In order to generate more power, the rods are raised again so that even more neutrons can crash into the atoms of Uranium.

Creating nuclear energy is a complex chemical process that can be very dangerous. It does however have many advantages. Nuclear energy is more affordable to create than coal energy, and does not use as much fuel in the process. It also produces less waste, and does not produce carbon dioxide or smoke. These benefits mean that nuclear energy is more advantageous than coal energy, as the production of nuclear energy does not contribute to environmental hazards or the greenhouse effect.

4.8 Environmental pollution

Man is one of the species who inhabit the earth. He is the only one who has interfered with various natural processes for use of both biological & physical resources to meet his multiple demands. Man has polluted all the three realms of the earth—lithosphere, hydrosphere & atmosphere. It is essential for us to know about environment & its pollution.

4.8.1 Air-pollution

Air pollution is the addition of gases, chemicals, and particle matter into the atmosphere. Air pollution primarily comes from burning fossil fuels such as natural gas, petroleum, and coal.

4.8.2 Types of air pollution

In general air can be polluted by two ways.

1. **Primary pollutants:** primary pollutants are the one which consist of materials such as dust, gases, liquids and other solid material around that enter the atmosphere through natural and human made activities. The main pollutants are carbon monoxide, sulphur oxide, nitrogen oxides.
2. **Secondary pollutant:** secondary pollutants consist of primary pollutants which reacted with each other and makes our air polluted. In megacities, the emissions from road car and industries combine themselves and makes photochemical smog with the help of light energy from the sun. Also the indoor pollutants have been identified some of the more common indoor air pollutants include smoke from cigarettes and cooking, asbestos etc. At high concentrations, these pollutants can cause dizziness. Headaches, coughing. Sneezing. Nausea, burning eyes,

chronic fatigue like symptoms. Some indoor pollutants, like asbestos and smoke, can cause disease and premature death

4.9 Controlling air pollution

Different strategy and have been used to reduce atmospheric pollution by different countries. Following are some general recommendations for developing hail the atmosphere and it should be adopted by all the nations over the world.

1. Rather than controlling air pollution, we should prevent the pollution
2. We must use clean wheels in cars and other auto mobiles
3. We have to use non-pollutant energy like solar energy, wind power and hydro prior
4. We have to control the population growth of the world
5. Encourage mass transit and less polluting forms of transportation (e. g. switch from air travel to rail travel).

4.10 Biological productivity of the Earth

Biological productivity of the Earth is degrading day by day, though human's beings are making lots of effort to raise the production. Following points are worth to note as indicator given by world watch Institute

1. Cropland area in world has been increased to the early 1980's but little increase is likely from here on
2. World grain land area has decreased since 1970.
3. The growth rate for forests is declining day byday.
4. Annual increases in world grain production have been falling over the last five decades, despite human people are using fertilizer at high rate.
5. The rate of increase in world irrigated land area is tapering.
6. The productivity of land did not rise much

4.10.1 Water pollution

Water pollution occurs when harmful substances are released into the water in large quantities which cause damage to people, wildlife, or habitat or indirectly into water bodies .Water pollution affects plants and organisms living in the bodies of water; and, in almost all cases the effect is damaging either to individual species and also to the biological communities.

4.10.1.1 Water pollution sources

Chemical & other contaminants are basic sources of water pollution. Contaminants may include organic and inorganic substances

4.10.1.2 Effect of water pollution

1. Water pollution is a major problem in the global context. It has been suggested that it is the leading worldwide cause of deaths and diseases, and that it accounts for the deaths of more than 14,000 people daily.
2. An estimated 700 million Indians have no access to a proper toilet, and 1,000 Indian children die of diarrhea sickness every day.
3. Some 90% of China's cities suffer from some degree of water pollution, and nearly 500 million

people lack access to safe drinking water.

4. In addition to the acute problems of water pollution in developing countries, industrialized countries continue to struggle with pollution problems as well.

Interactions between groundwater and surface water are complex. Consequently, groundwater pollution is not as easily classified as surface water pollution.

Inorganic water pollutants include:

1. Acidity caused by industrial discharges (especially sulphur dioxide from power plants)
2. Ammonia from food processing waste
3. Chemical waste as industrial by-products
4. Fertilizers containing nutrients—nitrates and phosphates, which are found in storm water runoff from agriculture, as well as commercial and residential use.
5. Heavy metals from motor vehicles (via urban storm water runoff) and acid mine drainage
6. Silt (sediment) in runoff from construction sites, logging, slash and burn practices or land clearing sites
7. Macroscopic pollution—large visible items polluting the water, may be termed “floatables” in an urban storm water context, or marine debris when found on the open seas, and can include such items as:
 8. Trash: (e.g. paper, plastic, or food waste) discarded by people on the ground, and that are washed by rainfall into storm drains and eventually discharged into surface waters
 9. Nurdles: small ubiquitous waterborne plastic pellets
 10. Shipwrecks: large derelict ships.

Definition 4.12 Pathogens are another type of pollution that prove very harmful. They can cause many illnesses that range from typhoid and dysentery to minor respiratory and skin diseases. Pathogens include such organisms as bacteria, viruses, and protozoan. These pollutants enter waterways through untreated sewage, storm drains, septic tanks, runoff from farms, and particularly boats that dump sewage.

Three last forms of water pollution exist in the forms of petroleum, radioactive substances, and heat. Petroleum often pollutes waterbodies in the form of oil, resulting from oil spills.

Thermal pollution Thermal pollution is the rise or fall in the temperature of a natural body of water caused by human influence. A common cause of thermal pollution is the use of water as a coolant by power plants and industrial manufacturers. Elevated water temperatures decreases oxygen levels (which can kill fish) and affects ecosystem composition. Thermal pollution can also be caused by the release of very cold water from the base of reservoirs into warmer rivers.

4.10.1.3 Purification of water

Purification of water involves physical, biological and chemical processes such as:

1. Filtration
 2. Sedimentation
 3. Chlorination
 4. Slow sand filters
 5. Activated Sludge
 6. Flocculation
- **Filtration:** Filtration is a mechanical or physical operation which is used for the separation of solids from fluids (liquids or gases) by interposing a medium through which only the fluid can pass.
 - **Sedimentation:** Sedimentation is the tendency for particles in suspension or molecules in

solution to settle out of the fluid in which they are entrained, and come to rest against a wall.

- **Chlorination** Chlorination is the process of adding the element chlorine to water as a method of water purification to make it fit for human consumption as drinking water. Water which has been treated with chlorine is effective in preventing the spread of water born disease.
- **Slow sand filters** Slow sand filters are used in water purification for treating raw water to produce a potable product. They are typically 1 to 2 metres deep, can be rectangular or cylindrical in cross section and are used primarily to treat surface water.
- **Activated Sludge:** Activated sludge is a process dealing with the treatment of sewage and industrial wastewaters and developed around 1912-1914. Atmospheric air or pure oxygen is introduced to a mixture of primary treated or screened sewage (or industrial wastewater) combined with organisms to develop a biological floc which reduces the organic content of the sewage
- **Flocculation:** Flocculation is, in the field of chemistry, a process where colloids come out of suspension in the form of floc or flakes. The action differs from precipitation in that, prior to flocculation, colloids are merely suspended in a liquid and not actually dissolved in a solution.

- Definition 4.13**
1. Industrial effort : Industry is responsible for a large amount of pollutants including ones that pollute water.
 2. Legislation has been passed forcing industry to make efforts to clean up their waste. Through reducing the waste that they produce, it has been possible to reduce the amount of pollutants that enter the water cycle .
 3. Municipal treatment plants are designed to control conventional pollutants: BOD and suspended solids Well-designed and operated systems (i.e., secondary treatment or better) can remove 90 percent or more of these pollutants. Some plants have additional sub-systems to treat nutrients and pathogens. Most municipal plants are not designed to treat toxic pollutants found in industrial wastewater
 4. Farming solution : Choosing organic options can help to reduce the amount of water pollution. These items are grown without the use of chemicals. Those chemicals, when used, enter the water cycle. Organic products don't introduce those chemicals to the water cycle.

Water pollution may be analyzed through several broad categories of methods: physical, chemical and biological. Most involve collection of samples, followed by specialized analytical tests. Some methods may be conducted without sampling, such as temperature

4.10.2 Soil pollution

The introduction of substances, biological organisms, or energy into the soil, resulting in a change of the soil quality, which is likely to affect the normal use of the soil or endangering public health and the living environment.

Soil contaminants are spilled onto the surface through many different activities. Most of these are the result of accidents involving the vehicles that are transporting waste material from site of origin to a disposal site.

Others involve accidents involving vehicles (automobiles, trucks and airplanes) not transporting wastes, but carrying materials, including fuel, that when spilled contaminate the soil.

4.10.3 Marine pollution

Marine pollution occurs when harmful, or potentially harmful, effects result from the entry into the ocean of chemicals, particles, industrial, agricultural and residential waste, noise, or the spread of invasive organisms. Most sources of marine pollution are land based. The pollution often comes from nonpoint sources such as agricultural runoff, wind-blown debris and dust. Nutrient pollution, a form of water pollution, refers to contamination by excessive inputs of nutrients. It is a primary cause of eutrophication of surface waters, in which excess nutrients, usually nitrogen or phosphorus, stimulate algae growth.

There are five main kinds of marine pollution, namely:

1. Pollution from land-based sources, such as rivers, estuaries, pipelines and outfall structures;
2. Pollution from exploitation of the mineral resources of the sea-bed;
3. Pollution from ships, i.e. the disposal of wastes or other matter incidental to or derived from the normal operations of ships;
4. Pollution by dumping, i.e. the deliberate disposal of wastes or other matter from ships, aircraft, platforms or other man-made structures at sea;
5. Pollution through the atmosphere.

4.10.4 Noise pollution

By definition, noise is “sound without value” or “any noise that is undesired by the recipient”. Thus, the kind of environmental impact of noise pollution is slightly different from other kinds of pollution.

Generally, there is much more noise in the urban areas because of larger concentration of population as well as industrial and other activities like transportation vehicular movements, etc. Non-industrial sources of noise can come from public address systems for religious or political propaganda, recreation, hawkers or other street noise. Noise can also arise from the natural sources like thunder.

Noise as a potent menace can be evaluated in terms of a ‘noise level’ scale, or in decibels (dB). However, the health hazard is a matter of perceived noise level decibels (pNdB), which according to the W.H.O.’s prescribed optimum noise level as 45 dB by day and 35 by night; and anything above 80 dB is hazardous.

The hazards of noise pollution are many and varied. For example, people exposed to noise levels reaching 110 db may reveal mental trauma, deafness, physical fatigue and hypertension, cardiovascular disease, insomnia, peptic ulcer, eczema and asthma. Psychologists are of the opinion that prolonged exposure to noise for a day alone, may lead to severe mental disorientation, and in a few cases, result in a violent behavior.

The noise properties and their reasonable level, in general, can be controlled only through enlightened and co-operative authorities. However, in a few cases, noise pollution can be minimized only through rigorous law and conscious efforts of the law enforcement department.

- **Sources of Noise Pollution**— The indoor sources of Noise Pollution are loudly played music stereos, radio, televisions, grinding machines, etc. The outdoor sources of Noise Pollution commonly referred to as environmental noise comes from airplane, machines, trains, vehicles, industries, etc.
- **Effect on Human Health**— It may affect the mind, health and behaviour. It may cause physically discomfort and temporary or permanent damage to hearing. It causes headache and irritability. Loud speakers not only disturb the student in their studies but also the peace of locality. It may cause deafness, stress and high-blood pressure.
- **Effect on Animal Health**— Animals suffer badly due to noise pollution. At times, it can also

lead to death. Noise has impact on the living pattern of the animals and it may push the rare species to extinction. Like humans, they also suffer from temporary or permanent disability of hearing.

Legislation and public co-operation are essential to check noise pollution. Nobody should be permitted to create noise in silent zones. Noise-producing traffic vehicles should be prevented from plying on the roads. Crackers that create extremely disturbing sound should be discouraged. Standards for noise control measures should be set up for industry and community. The existing ordinances and acts against dangerous form of environmental pollution should be revised from time to time depending upon the changing nature of the sources.

4.10.5 Thermal pollution

An increase in the optimum water temperature by industrial process (steel factories, electric power houses and atomic power plants) may be called as "Thermal Pollution." Many industries generate their own power and use water to cool their generator.

This hot water is released into the system from where it was drawn, causing a warming trend of surface water. If the system is poorly flushed, a permanent increase in the temperature may result. However, if the water is released into the well flushed system, permanent increase in temperature does not occur.

Many organisms are killed instantly by the hot water resulting into a high mortality. It may bring other disturbance in the ecosystem. The egg of fish may hatch early or fail to hatch at all. It may change the diurnal and seasonal behaviour and metabolic responses of organisms. It may lead to unplanned migration of aquatic animals. Macrophytic population may also be changed. As temperature is an important limiting factor, serious changes may be brought about even by a slight increase in temperature in a population. For minimising thermal pollution, hot water should be cooled before release from factories and removal of forest canopies and irrigation return flows should be prohibited.

The various causes of thermal pollution are as follows

1. **Coal-fired Power Plants**—Some thermal power plants use coal as fuel. Coal-fired power plants constitute the major source of the thermal pollution.
2. **Industrial Effluents**—Industries generating electricity require large amount of Cooling water for heat removal. Other industries like textile, paper, and pulp and sugar industry also release heat in water, but to a lesser extent.
3. **Nuclear Power Plants**—Nuclear power plants emit a large amount of unutilized heat and traces of toxic radio nuclear into nearby water streams. Emissions from nuclear reactors and processing installations are also responsible for increasing the temperature of water bodies.
4. **Hydro Electric Power**—Generation of hydro-electric power also results in negative thermal loading of water bodies.
5. **Domestic Sewage**— Domestic sewage is often discharged into rivers, lakes, canals or streams without waste treatment. The municipal water sewage normally has a higher temperature than receiving water. With the increase in temperature of the receiving water the dissolved oxygen content (DO) decreases and the demand of oxygen increases and anaerobic conditions occur.

Control of thermal pollution is necessary as its detrimental effects on aquatic ecosystem may be detrimental in the future. Viable solutions to chronic thermal discharge into water bodies are as follows:

1. **Cooling Ponds**—Cooling ponds or reservoirs constitute the simplest method of controlling thermal discharges. Heated effluents on the surface of water in cooling ponds maximize dissipation of heat to the atmosphere and minimize the water area and volume. This is the simplest and cheapest method which cools the water to a considerable low temperature. However, the technique alone is less desirable and inefficient in terms of air-water contact.
2. **Cooling Towers**—Using water from water sources for cooling purposes, with subsequent return to the water body after passing through the condenser is termed as cooling process. In order to make the cooling process more effective, cooling towers are designed to control the temperature of water. In-fact, cooling towers are used to dissipate the recovered waste heat so as to eliminate the problems of thermal pollution.
3. **Artificial Lake**—Artificial lakes are man-made bodies of water which offer possible alternative to once through cooling. The heated effluents may be discharged into the lake at one end and the water for cooling purposes may be withdrawn from the other end. The heat is eventually dissipated through evaporation.
These lakes have to be rejuvenated continuously. A number of methods have been suggested and developed for converting the thermal effluents from power plants into useful heat resources for maximizing the benefits.

4.10.6 Nuclear hazards

The principal sources that are of environmental concern are the nuclear weapons and nuclear power reactors in the event of mishaps. Before we consider these hazards in detail we will examine the effects of the nuclear radiations on the life system. A number of nuclear explosions have already been made during recent past in different part of world. Irrespective of judgments about the ethics of this practice, these tests occurred, injecting substantial amounts of radioactivity into the environment. Nuclear explosions are very rapid and based on a rough estimate, in an explosion about 50 per cent of the energy goes to the blast, 33 per cent as heat and the rest 17 per cent or so to radioactivity.

The radioactive dust that falls to the earth after atomic explosion is called radioactive fallout. The estimated percept dose to world population from fallout of past nuclear explosions is 10 microsievert per year.

Radioactive substances are among the most toxic substances known. Radium is 25,000 times more lethal than arsenic. The cell, which is the fundamental unit of life, is the primary site of radiation damage. If too many cells are damaged, the symptoms show up in the growing tissues as in the case of loss of hair, ulceration of the mouth, the reddening and hemorrhaging of the skin and lowering of the blood count. If these symptoms grow more severe, death will result.

1. **Somatic effects**—These are the direct results of action of radiation on the body cell and tissues. Uranium miners, painters of radium dials and Radiologists suffer most. These effects may be immediate or delayed. More evidence of degree and kind of damage from radiation came from studies of the Nagasaki and Hiroshima survivors. If one survives the phase of radiation illness in the 50 to 500 rad. range, the other illness one is likely to become a victim are cardiovascular disorder, cataract, leukemia, sterility, premature ageing and shortenings of life span. All these are somatic effects.
2. **Genetic effects**—There is another more serious type of effect of ionizing radiations, known as genetic effect. This arises from the damage to the sex cells. If a sex cell is damaged and if that sex cell is one of the pair that goes into the production of a fertilized ovum, it will give rise to an offspring with various kinds of major or minor physical defects.

4.10.7 Solid waste management

Wastes are chemical by-products of an industry, a factory or a chemical plant. They may result from household activity/a hospital or a research laboratory. Solid waste is the solid chemical produced by any of these sources, which may be dangerous to human health and pollute the environment. Waste may be classified into two categories:

1. **Toxic waste (intrinsic characteristic)**— Toxicity is the capacity of a substance to produce injury after entering the metabolic processes of the consumers (an animal, a plant or a human being). The changes may be pathogenic/mutagenic/tetragonic or carcinogenic.
2. **Hazardous waste (extrinsic characteristic)**— Hazardous means the potential of a substance to pose threat to life. Hazardous wastes have the properties like toxicity, ignitibility, corrosiveness, reactivity, radioactivity or explosiveness. Hence, the term hazardous is broader that includes “toxic” word in its spectrum.

Waste management has become an important environmental and public health issue, which concerns many countries in the world; waste management can be done by the following four methods:

1. **Waste minimization (by minimization the quantity of waste)**— Three major waste minimization techniques are:
 - a. **Process modification**— Industrial processes can be altered in such a way that the use of raw materials is optimized and the amount of waste is reduced.
 - b. **Waste concentration**— The large amount of waste can be minimized by concentration processes like evaporation, precipitation or decantation technique. Volume of waste can be minimized by this technique.
 - c. **Waste segregation**— Segregating the waste streams from non-hazardous streams can minimize the volume of waste.
2. **Treatment of waste**— The aim of treatment of waste is to modify the physical and /or chemical properties of the wastes so that they are rendered harmless. Selection of treatment process depends upon nature of waste, economic and energy consideration,
 - a) **Biological treatment**— Solid waste minimization is done by biological treatment of the waste before disposal. This treatment include three processes
 - **Conditioning**— In this process, the solid is exposed to atmosphere for a stipulated period until the desired constancy is reached.
 - **Digestion**— Waste is treated with bacteria in this process. The bacteria break down the long chain compounds into simpler ones.
 - **Composting**— In this process the waste is converted into the usable stable material.
3. **Recycling of wastes**— Many substances in the solid wastes (glass, wood fibre from the paper products and metals) are variable and can be utilized after recycling the waste. The two processes are often used to recycle the waste.
 - a. Reuse of the waste
 - b. Recycling of the waste
4. **Disposal of waste material**— There are four different ways of disposal of solid waste material:
 - a. Landfill disposal
 - b. Incineration (burning of waste products)
 - c. dumping at sea (for prevention of ground water pollution, disposal of waste is controlled by international legislation and by national legislation).
 - d. Underground disposal (underground disposal may provide an environmentally and eco-

nomically viable option for radioactive wastes).

4.10.8 Municipal sewage

Municipal solid waste consists of household waste, construction and demolition debris, sanitation residue, and waste from streets. This garbage is generated mainly from residential and commercial complexes. With rising urbanization and change in lifestyle and food habits, the amount of municipal solid waste has been increasing rapidly and its composition changing. In 1947 cities and towns in India generated an estimated 6 million tonnes of solid waste, in 1997 it was about 48 million tonnes. More than 25% of the municipal solid waste is not collected at all; 70% of the Indian cities lack adequate capacity to transport it and there are no sanitary landfills to dispose of the waste. The existing landfills are neither well equipped or well managed and are not lined properly to protect against contamination of soil and groundwater.

The type of litter we generate and the approximate time it takes to degenerate

Type of litter	Approximate time it takes to degenerate the litter
Organic waste such as vegetable and fruit peels, leftover foodstuff, etc.	a week or two.
Paper	10-30 days
Cotton cloth	2-5 months
Wood	10-15 years
Woolen items	1 year
Tin, aluminium, and other metal items such as cans	100-500 years
Plastic bags	one million years?
Glass bottles	undetermined

4.11 Acid rain

in the heavily industrialized area, due to the excessive amount of nitrogen and sulphur emanating from the industry, rainfall became acidic. Whenever the rainfall contains too much acidic element, it is called acid rain.

4.11.1 Causes and implications of acid rain

the most prominent ingredient of acid rain is nitrogen and sulphur. This nitrogen and sulphur came from either industry or car. As a result of acid rain, forests and lakes are dying day by day and also productivity of agriculture are degraded in current decade. The whole world are concerned about acid rain. To mitigate the problem of acid rain ,we have to depend on small farm and gardens, no artificial fertilisers or pesticides and many more.

4.12 Pollution of air

Air pollution refers to the degradation of quality of the air as measured by biological, chemical, or physical criteria. Air pollution happens when some substance of a became high and up to make air highly toxic. Air can be polluted by means of gases, liquid or solid and also it can come from natural sources or it can be human made. Example of natural sources for air pollution are volcanic emissions, dust, forest fire etc. Human made air pollution includes emissions from industry, agriculture, transportation et cetera

4.13 Volcano

A volcano is a vent or chimney which transfers molten rock known as magma from depth to the Earth's surface. Magma erupting from a volcano is called lava and is the material which builds up the cone surrounding the vent.

A volcano is active if it is erupting lava, releasing gas or generates seismic activity. A volcano is dormant if it has not erupted for a long time but could erupt again in the future. Once a volcano has been dormant for more than 10 000 years, it is termed extinct.

The explosiveness of a volcanic eruption depends on how easily magma can flow and the amount of gas trapped within the magma. Large amounts of water and carbon dioxide are dissolved in magma causing it to behave in a similar way to gas expanding in fizzy drinks, which forms bubbles and escapes after opening. As magma rises quickly through the Earth's crust, gas bubbles form and expand up to 1000 times their original size.

Volcanoes can be different in appearance with some featuring perfect cone shapes while others are deep depressions filled with water. The form of a volcano provides a clue to the type and size of its eruption which is controlled by the characteristics and composition of magma. The size, style and frequency of eruptions can differ greatly but all these elements correlated to the shape of a volcano

4.13.1 What effects do volcanoes have?

Volcanic ash is very good for soil, so plants grow quickly and strong after a volcano. Following are the effects of volcano

1. Volcanoes can change the weather. They can cause rain, thunder and lightning. Volcanoes can also have long-term effects on the climate, making the world cooler.
2. Fast-moving lava can kill people and falling ash can make it hard for them to breathe. They can also die from famine, fires and earthquakes which can be related to volcanoes. People can lose their possessions as volcanoes can destroy houses, roads and fields.
3. Lava can kill plants and animals too. The Mount St Helens volcano in 1980 killed an estimated 24,000 animals including 11,000 hares, 6,000 deer, 300 bobcats, 200 black bears and 15 mountain lions.

4.13.2 Secondary And Tertiary Effects Of Volcanism

Besides the primary effects of volcano in our world, it can have secondary and tertiary effects. Following are the few indirect effect of volcano.

- | | |
|--|-------------------------|
| 1. Mudflows (Lahars) | 5. Volcanic Earthquakes |
| 2. Debris Avalanches and Debris Flows. | 6. Volcanic Tremors |
| 3. Flooding. | 7. Atmospheric Effects. |
| 4. Tsunamis. | 8. Famine and Disease |

4.13.3 Benefit of volcanism

Volcanism on the earth is responsible for changing the atmosphere and hydrosphere by emanating different gases. It has been observed that in the volcanism area soils becomes active and fertilized. The machine heat produced by volcanism can be used to produce geothermal energy. An active volcano is one which eruptive activity within pre-recorded history. An active volcano does not mean that it is erupting continuously.

1. at present there are about 600 volcanos is active on earth surface.
2. Yellowstone Caldera is about 600, 000 years old and is deeply eroded. It is also considered as a dormant volcano.
3. the lifetime of a volcano may be in the order of million years, dormant volcanoes can become active at any time. Dormant volcano is most dangerous because people living at the vicinity of this volcano cannot predict when the eruption will happen.

4.14 Land pollution

Pollution is the introduction of harmful materials into the environment. Sometimes naturally occurring substances can be unsafe if their presence causes damage or disrupts natural cycles in the ecosystem. For example, fertilizers can benefit plants by supplying necessary nutrients, but overapplication can kill plants with the potential that drift or runoff will affect other nontargeted areas. The once-useful fertilizer now becomes a pollutant. Land pollution means degradation or destruction of earth's surface and soil, directly or indirectly as a result of human activities.

4.14.1 Causes of Land Pollution

Below are the sources of land pollution

- | | |
|-----------------------------------|----------------------------|
| 1. Deforestation and soil erosion | 5. industrialisation |
| 2. Agricultural activities | 6. construction activities |
| 3. mining activities | 7. nuclear waste |
| 4. overcrowded landfills | 8. sewage treatment |

4.14.2 Effects of Land Pollution

following are the main effects of land pollution is in our environment.

- | | |
|------------------------------|-------------------------------------|
| 1. soil pollution | 5. pollution in the year |
| 2. changing climate patterns | 6. effect on wildlife |
| 3. impact on environment | 7. destruction of tourist |
| 4. effect on human health | 8. Impact on our future generation. |

4.14.3 Solutions for Land Pollution

1. Make people aware about the concept of Reduce, Recycle and Reuse.
2. Reduce the use of pesticides and fertilizers in agricultural activities.

3. Avoid buying packages items as they will lead to garbage and end up in landfill site.
4. Ensure that you do not litter on the ground and do proper disposal of garbage.
5. Buy biodegradable products.
6. Do Organic gardening and eat organic food that will be grown without the use of pesticides.
7. Create dumping ground away from residential areas.

Several creatures survive under the land too. Disrupting the harmony of the land, is disrupting their habitat. This has led to several creatures reaching the endangered status like the Gilbert's Potoroo in Australia. We walk and survive on land. It is literally the base of our ecosystem. It is in our good interest to take care of it and nurture it.

4.15 Tsunami

A tsunami (pronounced tsoo-NAH-mee) is a series of waves, made in an ocean or other body of water by an earthquake, landslide, volcanic eruption, or meteorite impact. Tsunamis can cause huge destruction when they hit coastlines.

A few minutes before a tsunami wave hits, the water near shore may move away, exposing the ocean floor. Often the first wave may not be the largest, and additional waves may arrive at the coast every 10 to 60 minutes. They move much faster than a person can run. The danger from a tsunami can last for several hours after the arrival of the first wave. Unlike other waves, tsunami waves typically do not curl and break.

4.16 Solved exercises

1. Comparative Environment Impact Assessment study is to be conducted for : (JUNE-2007)
 - (A) the whole year
 - (B) three seasons excluding monsoon
 - (C) any three seasons
 - (D) the worst season
2. Sea level rise results primarily due to: (JUNE-2007)
 - (A) Heavy rainfall
 - (B) Melting of glaciers
 - (C) Submarine volcanism
 - (D) Seafloor spreading
3. The plume rise in a coal based power plant depends on:
 - i) Buoyancy.
 - ii) Atmospheric stability.
 - iii) Momentum of exhaust gases.
 Identify the correct code: (JUNE-2007)
 - (A) (i) and (ii) only
 - (B) (ii) and (iii) only
 - (C) (i) and (iii) only
 - (D) (i), (ii) and (iii)
4. Winds blowing down an incline often due to cold air drainage are called:
 - (A) Anabatic winds
 - (B) Mountain winds
 - (C) Cyclonic winds
 - (D) Katabatic winds
5. Mixing height is:
 - (A) the height of ground based inversion
 - (B) the height at which geostrophic balance occurs
 - (C) the height of constant solar flux layer
 - (D) the height upto which atmosphere is churned by convection

- 6.** For a comprehensive EIA study, it is to be conducted for:
- (A) The whole year
 - (B) Any three seasons including monsoon
 - (C) Three seasons excluding monsoon
 - (D) The worst season
- 7.** In initial environmental examination, the following are considered:
- (A) No quantitative data
 - (B) Primary data
 - (C) Secondary data
 - (D) On site data for at least a season
- 8.** Which of the following forest types is most widespread in India?
- (A) Tropical evergreen forest
 - (B) Tropical deciduous forest
 - (C) Temperate forest
 - (D) Scrub forest
- 9.** The presence of pneumatophores is seen in:
- (A) Desert plants
 - (B) Climbers and lianas
 - (C) Trees of tropical moist forests
 - (D) Mangroves
- 10.** Ramsar convention is related to conservation of:
- (A) Tiger
 - (B) Elephants
 - (C) Crop genetic diversity
 - (D) Wetlands
- 11.** A significant effect of climate change on account of global warming on terrestrial plants will be on:
- (A) Stomatal mechanism
 - (B) Amino acid composition of cereal grains
 - (C) Phenology
 - (D) Bark formation in trees
- 12.** A tree, which is popular in social forestry programme in India, is:
- (A) *Shorea robusta*
 - (B) *Ailanthus excelsa*
 - (C) *Cedrus deodara*
 - (D) *Callistemon lanceolatus*
- 13.** The great Indian Rhino has its natural home in:
- (A) Kaziranga National Park
 - (B) Corbett National Park
 - (C) Sunderbans
 - (D) Kanha National Park
- 14.** According to the Botanical Survey of India, the total number of plant species in India is about:
- (A) 45,000
 - (B) 75,000
 - (C) 17,000
 - (D) 30,000
- 15.** Assertion (A) : Bt cotton is a transgenic crop which has been introduced in India, but is being opposed on environmental grounds. Reason (R): CryI_{Ac} protein in Bt cotton has been found to be toxic and allergenic to human beings.
- (A) Both (A) and (R) are true and (R) is the correct explanation of (A) .
 - (B) Both (A) and (R) are true but (R) is not correct explanation of (A).
 - (C) Both (A) and (R) are true but (R) is not correct explanation of (A).
 - (D) (A) is true but (R) is false
 - (E) (A) is false but (R) is true
- 16.** Oxygen toxicity (in humans) is caused by:
- (A) Inhalation of molecular oxygen
 - (B) Generation of free radicals
 - (C) Interactions of singlet oxygen with membrane
 - (D) None of the above

- 17.** $C_2F_3C_{13}$ gas:
- (A) absorbs ultraviolet radiations
 - (B) affects troposphere ozone
 - (C) forms aerosols in stratosphere
 - (D) absorbs infrared radiations
- 18.** Which of the following shows bioaccumulation and contaminate food chains?
- (A) Pesticides
 - (B) Polychlorinated biphenyls
 - (C) PAN
 - (D) All of the above
- 19.** Removal of which of the following impurities from contaminated water requires the use of coagulants:
- (A) Colloidal impurities
 - (B) dissolved solids
 - (C) micro organisms
 - (D) all of the above
- 20.** The most efficient method of biodegradable urban solid waste management is:
- (A) Landfills
 - (B) Pelletisation
 - (C) Gasification
 - (D) Composting
- 21.** Pollutants in soil can be broken down by micro organisms. The process is called:
- (A) Probiotics
 - (B) Bioremediation
 - (C) Bioaugmentation
 - (D) None of the above
- 22.** A thermodynamic function of state which is constant during a reversible isobaric isothermal process is:
- (A) Geothermal potential
 - (B) Thermodynamic efficiency
 - (C) Enthalpy
 - (D) Gibb's free energy
- 23.** t - statistic is useful for testing:
- (A) Variances
 - (B) Overall goodness of fit of a regression model
 - (C) null hypothesis for a regression coefficient
 - (D) constancy of the mean
- 24.** 1 metric ton of average coal in energy terms is equivalent to:
- (A) 2000 cubic feet of natural gas
 - (B) 24000 cubic feet of natural gas
 - (C) 1.5 barrels of oil
 - (D) 2.0 barrels of oil
- 25.** In marine environment Carbonate Compensation Depth (CCD) is defined as depth at which:
- (A) Carbonate begins to dissolve
 - (B) Carbonate begins to precipitate
 - (C) Carbonate begins to precipitate
 - (D) Bicarbonate begins to dissolve
- 26.** In an idealised Magneto hydrodynamic power plant, the maximum power output varies with fuel velocity (u) as:
- (A) U
 - (B) U^2
 - (C) U^3
 - (D) $U^{1/2}$
- 27.** In humid climate, weathering of various types of rocks occurs. Identify the correct sequence in order of decreasing weathering:
- (A) Basalt > Dunite > Granite
 - (B) Basalt > Granite > Dunite
 - (C) Dunite > Granite > Basalt
 - (D) Dunite > Basalt > Granite
- 28.** The lion - tailed macaque is endemic to:
- (A) Andaman and Nicobar islands
 - (B) Lakshadweep
 - (C) Nilgiri
 - (D) Arunachal Pradesh

- 29.** Which of the following concepts can be used to study the rate of acceleration of the Universe?
- I) Supernovae Explosions.
 II) Dark Matter.
 III) Dark Energy.
 IV) Black Holes.
- (A) I & III only.
 (B) I & II only.
 (C) II, III & IV only.
 (D) I, III & IV only.
- 30.** Which of the following can be a trigger for Coral Bleaching?
- I) Increase in ocean temperature.
 II) Decrease in ocean temperature.
 III) Decline in Zooplankton levels.
 IV) Changes in salinity.
 V) Elevated sea levels due to global warming.
- (A) All except II
 (B) All except II & IV
 (C) All except V
 (D) None of the above.
- 31.** Deforestation during the recent decades has led to:
- (A) Soil erosion
 (B) Landslides
 (C) Loss of bio-diversity
 (D) All the above
- 32.** Which one of the following natural hazards is responsible for causing highest human disaster? (DECEMBER-2007)
- (A) Earthquakes
 (B) Snow-storms??
 (C) Volcanic eruptions
 (D) Tsunami
- 33.** Which one of the following is appropriate for natural hazard mitigation? (DECEMBER-2007)
- (A) International AID
 (B) Timely Warning System
 (C) Rehabilitation
 (D) Community Participation
- 34.** Slums in metro-city are the result of: (DECEMBER-2007)
- (A) Rural to urban migration
 (B) Poverty of the city-scape
 (C) Lack of urban infrastructure
 (D) Urban-governance
- 35.** Ganga Action plan was launched in.
- (A) 1985
 (B) 1986
 (C) 1987
 (D) 1988
- 36.** NRCP was launched in...
- (A) 1994
 (B) 1995
 (C) 1996
 (D) 1997
- 37.** It represent the permanent loss of hearing and no recovery?
- (A) NISTS
 (B) NIPTS
 (C) NICCS
 (D) NIDTS
- 38.** Nagli is a
- (A) Animal
 (B) Cotton
 (C) Crop
 (D) None of these
- 39.** Solar, Wind are the examples of
- (A) Renewable
 (B) Non- renewable
 (C) Both
 (D) None of these

- 40.** Jog waterfall, the highest waterfall in India, is located in
(A) Kerala
(B) Karnataka
(C) Maharashtra
(D) Madhya Pradesh
- 41.** The first man to reach the South Pole on 1 December 14, 1911 was
(A) Commander Robert, E. Peary of U.S.
(B) Racad Amundsen from Norway
(C) The Navigator Ferdinand Magellan
(D) Sir Francis Drake of England
- 42.** Freely suspended magnetic needle stands in which direction?
(A) North-West direction
(B) North-South direction
(C) North-East direction
(D) South-West direction
- 43.** In what regions can the sun be seen at midnight?
(A) The tropical zone
(B) Warm temperate regions
(C) The Arctic and Antarctic regions
(D) Anywhere at the time of lunar eclipse
- 44.** The Basel Convention on the Control of Trans boundary Movements of Hazardous Wastes and Their Disposal, usually known as the Basel Convention:
I) It is an international treaty that was designed to reduce the movements of hazardous wastes from developed to less developed countries.
II) It does not address the movement of radioactive waste.
(A) I only.
(B) II only.
(C) Both I and II
(D) None of these
- 45.** Which among the following planets intersects the orbit of Neptune?
(A) Mercury
(B) Pluto
(C) Earth
(D) Uranus
- 46.** Which of the following countries is called the "Country of white elephants"?
(A) Kuwait
(B) Thailand
(C) South Africa
(D) India
- 47.** Where is the famous shore temple located?
(A) Puri
(B) Visakhapatnam
(C) Mamallapuram
(D) Chennai
- 48.** The largest continent in the world is:
(A) North America
(B) Africa
(C) Asia
(D) Europe
- 49.** 'Radcliff Line' is a boundary line between
(A) India and Bangladesh
(B) India and Bhutan
(C) India and China
(D) India and Pakistan
- 50.** Which of the following statements are correct with regard to Red tide - a term used to describe Harmful Algal Blooms (HABs) in marine coastal areas.
I) These blooms are not associated with tides.
II) HABs tint the seawater to a reddish color.
III) Not all algal blooms are harmful, even those involving red discoloration.

- (A) I & III only.
 (B) I & II only.
 (C) II & III only.
 (D) I, II & III
- 51.** Which of the following statements is/are correct:
- I) Ozone Depletion causes reduction in stratospheric and upper tropospheric temperatures.
 II) Increase in Green House Gases causes reduction in stratospheric and upper tropospheric temperatures.
- (A) I only.
 (B) II only.
 (C) Both I and II
 (D) None on these
- 52.** Which of the following statements is/are correct with regard to Ozone Depletion:
- I) Ozone hole is measured in terms of ozone concentrations, which is expressed in Dobson units.
 II) The major cause for Ozone Depletion is the presence of CFCs in stratosphere- CFCs are entirely man made and not found naturally.
- (A) I only.
 (B) II only.
 (C) Both I and II
 (D) None of these
- 53.** Which of the following pairs is not correctly matched?
- (A) Panna : Diamond
 (B) Neyveli : Lignite
 (C) Mysore : Marble
 (D) Sambhar : Salt
- 54.** Where does the primitive community of Bushman live?
- (A) Sahara desert
 (B) Thar desert
 (C) Kalahari desert
 (D) Attacama desert
- 55.** Difference of longitudinal of two places on the earth is 15° . What will be the difference in its local time?
- (A) No difference
 (B) 1 hour
 (C) 2 hours
 (D) 15 hours
- 56.** Among the following cities, which one is nearest to the Tropic of Cancer?
- (A) Delhi
 (B) Kolkatta
 (C) Jodhpur
 (D) Nagpur
- 57.** Which one among the following languages has largest number of speakers in the world?
- (A) Bengali
 (B) French
 (C) Japanese
 (D) Portuguese
- 58.** Where was electricity introduced in India?
- (A) Kolkata
 (B) Darjeeling
 (C) Mumbai
 (D) Chennai
- 59.** The great Indian Bustard bird is found in: (DECEMBER-2007)
- (A) Thar Desert of India
 (B) Coastal regions of India
 (C) Temperate Forests in the Himalaya
 (D) Tarai zones of the Himalayan Foot
- 60.** Which one of the following is the most comprehensive source of population data? (JUNE-2008)
- (A) National Family Health Surveys

- (B) National Sample Surveys
(C) Census
(D) Demographic Health Surveys
- 61.** Human ear is most sensitive to noise in which of the following ranges: (JUNE-2008)
(A) 1-2 KHz
(B) 100-500 Hz
(C) 10-22 KHz
(D) 13-16 KHz
- 62.** Which one of the following units is used to measure intensity of noise? (JUNE-2008)
(A) decibel
(B) Hz
(C) Phon
(D) Watts/m^2
- 63.** If the population growth follows a logistic curve, the maximum sustainable yield: (JUNE-2008)
(A) is equal to half the carrying capacity.
(B) is equal to the carrying capacity.
(C) depends on growth rates.
(D) depends on the initial population.
- 64.** Chemical weathering of rocks is largely dependent upon: (JUNE-2008)
(A) high temperature
(B) strong wind action
(C) heavy rainfall
(D) glaciation
- 65.** Which of the following pairs regarding typical composition of hospital wastes is incorrect? (DECEMBER-2008)
(A) Plastic—9-12%
(B) Metals—1-2%
(C) Ceramic—8-10%
(D) Biodegradable—35-40%
- 66.** Fresh water achieves its greatest density at: (DECEMBER-2008)
(A) -4°C
(B) 0°C
(C) 4°C
(D) -2.5°C
- 67.** Which one of the following is not associated with earthquakes? (DECEMBER-2008)
(A) Focus
(B) Epicenter
(C) Seismograph
(D) Swells
- 68.** The tallest trees in the world are found in the region : (DECEMBER-2008)
(A) Equatorial region
(B) Temperate region
(C) Monsoon region
(D) Mediterranean region
- 69.** Environmental impact assessment is an objective analysis of the probable changes in: (JUNE-2009)
(A) physical characteristics of the environment
(B) biophysical characteristics of the environment
(C) socio-economic characteristics of the environment
(D) all the above
- 70.** Bog is a wetland that receives water from: (JUNE-2009)
(A) nearby water bodies
(B) melting
(C) rain fall only
(D) sea only
- 71.** Which of the following region is in the very high risk zone of earthquakes? (JUNE-2009)
(A) Central Indian Highland

- (B) Coastal region
(C) Himalayan region
(D) Indian desert
- 72.** Indian coastal areas experienced Tsunami disaster in the year: (JUNE-2009)
(A) 2005
(B) 2004
(C) 2006
(D) 2007
- 73.** Which of the following sources of data is not based on primary data collection? (DECEMBER-2009)
(A) Census of India
(B) National Sample Survey
(C) Statistical Abstracts of India
(D) National Family Health Survey
- 74.** Which of the following statements is/are correct with regard to Vitamin D:
I) Vitamin D is produced in the skin by ultraviolet light.
II) Higher levels of Vitamin D are associated with higher morbidity.
III) Body has no mechanism to prevent sunlight from producing too much Vitamin D
(A) I & III only.
(B) I & II only.
(C) II & III only.
(D) I, II & III
- 75.** If the Arctic Ice was somehow replaced with dense forest, which of the following situation may arise:
(A) It will accelerate Global Warming.
(B) It will decelerate Global Warming.
(C) It may or may not affect Global warming.
(D) It will have no affect on Global Warming.
- 76.** The capital of Laos is
(A) Vientiane
(B) Ankara
(C) Abu Dhabi
(D) Hanoi
- 77.** Which strait separates India from Sri Lanka?
(A) Mandeb
(B) Magellan
(C) Malacca
(D) Palk
- 78.** Which of the following is the largest island?
(A) Sumatra
(B) Madagascar
(C) Honshu
(D) Cuba
- 79.** Which of the following district is on the international border of India
(A) Gorakhpur
(B) West Khasi Hills
(C) Kinnaur
(D) Kullu
- 80.** Which one of the following is not the vegetation in Selva forests?
(A) Epiphytes
(B) Xerophytes
(C) Liana
(D) Hydrophytes
- 81.** How far the axis of earth is inclined of its orbital surface?
(A) 23
(B) 66
(C) 180
(D) It is not inclined
- 82.** Recently Chinese scientists have developed Carbon Aerogel. Which of the following is/are correct about it:

- I) It is the second lightest material after Graphite aerogel.
 II) It has excellent elasticity.
 III) It is expected to play an important role in pollution control.
 IV) It is expected to become ideal material for sound absorption.
- (A) II, III & IV only.
 (B) II & IV only.
 (C) I & III only.
 (D) I, II, III & IV
- 83.** Lantana - known as Phool Lakhri in local parlance is a shrub found in abundance in Himachal Pradesh. Which of the following statements are correct about it?
- I) It is a toxic weed and has affected the mountain diversity of the state.
 II) Lantana species are widely cultivated for their flowers.
 III) It is endemic to India.
 IV) It is considered as potential fire hazard and it is combustible even when green.
- (A) I, II & IV only.
 (B) II & IV only.
 (C) I & III only.
 (D) I, II, III & IV
- 84.** Which of the following is only star?
- (A) Moon
 (B) Venus
 (C) Earth
 (D) Sun
- 85.** Israel has common borders with
- (A) Lebanon, Syria, Jordan and Egypt
 (B) Lebanon, Syria, Turkey and Jordan
 (C) Cyprus, Turkey, Jordan and Egypt
 (D) Turkey, Syria, Iraq and Yemen
- 86.** Which one of the following is the longest glacier of India?
- (A) Pindari
 (B) Gangotri
 (C) Siachen
 (D) Zemu
- 87.** Nubian desert is in
- (A) Ethiopia
 (B) Egypt
 (C) Sudan
 (D) Somalia
- 88.** The longest highway in India runs from
- (A) Kolkata to Jammu
 (B) Jammu to Kanya Kumari
 (C) Ambala to Nagercoil
 (D) Varanasi to Kanya Kumari
- 89.** Which of the following statements are correct about C & Ku Band that are used for satellite communications transmissions:
- I) The frequency of Ku Band is greater than C band.
 II) C band performs better under adverse weather conditions in comparison to Ku band.
 III) C band has a higher likelihood of terrestrial interference in comparison to Ku Band.
- (A) I, II & III
 (B) I & II only.
 (C) I & III only.
 (D) II & III only.
- 90.** Which of the following statements are true regarding Soda Lake:
- I) Soda lakes are highly acidic lakes.
 II) Soda lakes are highly productive ecosystems.
 III) A critical geological condition for the formation of Soda Lake is the absence of soluble calcium or magnesium.
 IV) Lonar and Sambhar lakes are examples of Soda lakes in India.

- (A) I, II & III only.
 (B) I & IV only.
 (C) II, III & IV only.
 (D) III & IV only.
- 91.** Which of the following is/are the Industrial uses of Hydraulic Fracturing:
 I) Arousing production from oil and gas wells.
 II) To dispose of waste by injection into deep rock formations.
 III) As a method to measure the stress in the Earth.
 (A) I, II & III
 (B) I only.
 (C) I & III only.
 (D) II & III only.
- 92.** The new alluvial deposits found the Gangetic plain are known as
 (A) Bhabar
 (B) Bhangar
 (C) Khadar
 (D) Terai
- 93.** Which water body separates Australia from New Zealand?
 (A) Cook Straits
 (B) Tasman Sea
 (C) Munro Sound
 (D) Great Barrier Reef
- 94.** Kodaikanal, the famous hill-station of South India is situated on:
 (A) Palni Hills
 (B) Anaimalai Mountain
 (C) Nilgiri Mountain
 (D) Carmdamon Hills
- 95.** Match List-I with List-II and select the correct answer using the codes given below: (JUNE-2009)
 (A) $A - (iv), B - (iii), C - (ii), D - (i)$
 (B) $A - (iii), B - (iv), C - (ii), D - (i)$
 (C) $A - (i), B - (iii), C - (iv), D - (ii)$
 (D) $A - (iv), B - (ii), C - (iii), D - (i)$
- 96.** Match List-I with List-II and select the correct answer using the codes given below: (DECEMBER-2008)
 (A) $A - (ii), B - (i), C - (iv), D - (iii)$
 (B) $A - (iii), B - (iv), C - (ii), D - (i)$
 (C) $A - (i), B - (iii), C - (iv), D - (ii)$
 (D) $A - (iv), B - (ii), C - (iii), D - (i)$
- 97.** The smallest continent of the world is
 (A) Europe
 (B) Antarctica
 (C) South America
 (D) Australia
- 98.** The earthquake waves which have transverse movements are known as
 (A) Primary waves
 (B) Secondary waves
 (C) Surface waves
 (D) None of the above
- 99.** Plasma arc technology is used for the disposal of waste, which of the following statements is/are correct with regard to this technology:
 I) It can be used for the disposal of hazardous and radioactive waste.
 II) Oxides of Sulphur and Nitrogen are the polluting gases produced in this process.
 III) This technology has not been tried anywhere in India.
 (A) I, II & III
 (B) I & II only.
 (C) I & III only.
 (D) III only.

- 100.** Which region of India receives rainfall due to western disturbance in winter?
- (A) Western region
(B) Central region
(C) Eastern region
(D) North-Western region
- 101.** What is the correct sequence of the rivers Godavari, Mahanadi, Narmada and Tapi in the descending order of their lengths?
- (A) Godavari-Mahanadi-Narmada-Tapi
(B) Godavari-Narmada-Mahanadi-Tapi
(C) Narmada-Godavari-Tapi-Mahanadi
(D) Narmada-Tapi-Godavari-Mahanadi
- 102.** Among the following which planet takes maximum time for one revolution around the Sun?
- (A) Earth
(B) Jupiter
(C) Mars
(D) Venus
- 103.** Which of the following is the highest waterfall in the world?
- (A) Angel
(B) Ribbin
(C) Hungela
(D) Quecanag
- 104.** What is the harm from the depletion of Earth's ozone layer
- (A) The average temperature of earth's surface will increase gradually
(B) The oxygen content of the atmosphere will decrease
(C) Increased amount of Ultra violet radiation will reach earth's surface
(D) Sea levels will rise as the polar ice caps will gradually melt
- 105.** Acid rain is formed due to contribution from the following pair of gases
- (A) . Methane and ozone
(B) Oxygen and nitrous oxide
(C) methane and sulphur dioxide
(D) Carbon dioxide and sulphur dioxide
- 106.** Structure of earth's system consists of the following: Match List-I with List-II and give the correct answer. (JUNE-2008)
- (A) $A - (i), B - (iii), C - (ii), D - (iv)$
(B) $A - (iii), B - (iv), C - (ii), D - (i)$
(C) $A - (i), B - (iii), C - (iv), D - (ii)$
(D) $A - (iv), B - (ii), C - (iii), D - (i)$
- 107.** Arrange column II in proper sequence so as to match it with column I and choose the correct answer from the code given below:(DECEMBER-2006)
- (A) $A - (ii), B - (iii), C - (i), D - (iv)$
(B) $A - (iii), B - (iv), C - (ii), D - (i)$
(C) $A - (i), B - (iii), C - (iv), D - (ii)$
(D) $A - (iv), B - (ii), C - (iii), D - (i)$
- 108.** Who among the following can be asked to make a statement in Indian Parliament? (JUNE-2006)
- (A) Any MLA
(B) Chief of Army Staff
(C) Solicitor General of India
(D) Mayor of Delhi
- 109.** Water is always involved with landslides. This is because it: (JUNE-2006)
- (A) reduces the shear strength of rocks
(B) increases the weight of the overburden

- (C) enhances chemical weathering
(D) is a universal solvent
- 110.** Which of the following is a prime health risks associated with greater UV radiation through the atmosphere due to depletion of stratospheric ozone?
(A) Damage to digestive system
(B) Increased liver cancer
(C) Neurological disorder
(D) Increased skin cancer
- 111.** The most serious environmental effect posed by hazardous wastes is
(A) air pollution.
(B) contamination of groundwater.
(C) increased use of land for landfills. .
(D) none of the above.
- 112.** Which of the four data sets have more dispersion? (DECEMBER-2009)
(A) 88, 91, 90, 92, 89, 91
(B) 0, 1, 1, 0, -1, -2
(C) 3, 5, 2, 4, 1, 5
(D) 0, 5, 8, 10, -2, -8
- 113.** The great Indian Bustard bird is found in (DECEMBER-2009)
(A) Thar Desert of Rajasthan
(B) Coastal regions of India
(C) Malabar Coast
(D) Delta regions
- 114.** The Sagarmanthan National Park has been established to preserve the eco-system of which mountain peak? (DECEMBER-2009)
(A) Kanchenjunga
(B) Mount Everest
(C) Annapurna
(D) Dhaulavira
- 115.** Maximum soot is released from (DECEMBER-2009)
(A) Petrol vehicles
(B) CNG vehicles
(C) Diesel vehicles
(D) Thermal Power Plants
- 116.** Surface Ozone is produced from (DECEMBER-2009)
(A) Transport sector
(B) Cement plants
(C) Textile industry
(D) Chemical industry
- 117.** Which one of the following non-conventional energy sources can be exploited most economically? (DECEMBER-2009)
(A) Solar
(B) Wind
(C) Geo-thermal
(D) Ocean Thermal Energy Conversion (OTEC)
- 118.** The most recurring natural hazard in India is (DECEMBER-2009)
(A) Earthquakes
(B) Floods
(C) Landslides
(D) Volcanoes
- 119.** Which one of the following is the oldest Archival source of data in India ? (JUNE-2010)
(A) National Sample Surveys
(B) Agricultural Statistics
(C) Census
(D) Vital Statistics
- 120.** Which is the smallest North-east State in India? (JUNE-2006)
(A) Tripura
(B) Meghalaya
(C) Mizoram
(D) Manipur

- 121.** Tamilnadu coastal belt has drinking water shortage due to: (JUNE-2006)
- (A) high evaporation
 - (B) sea water flooding due to tsunami
 - (C) over exploitation of ground water by tube wells
 - (D) seepage of sea water
- 122.** While all rivers of Peninsular India flow into the Bay of Bengal, Narmada and Tapi flow into the Arabian Sea because these two rivers: (JUNE-2006)
- (A) Follow the slope of these rift valleys
 - (B) The general slope of the Indian peninsula is from east to west
 - (C) The Indian peninsula north of the Satpura ranges, is tilted towards the west
 - (D) The Indian peninsula south of the Satpura ranges is tilted towards east
- 123.** Soils in the Mahanadi delta are less fertile than those in the Godavari delta because of: (JUNE-2006)
- (A) erosion of top soils by annual floods
 - (B) inundation of land by sea water
 - (C) inundation of land by sea water
 - (D) the derivation of alluvial soil from red-soil hinterland
- 124.** Parliament can legislate on matters listed in the State list: (JUNE-2006)
- (A) With the prior permission of the President.
 - (B) Only after the constitution is amended suitably.
 - (C) In case of inconsistency among State legislatures.
 - (D) At the request of two or more States.
- 125.** The most significant impact of volcanic eruption has been felt in the form of: (DECEMBER-2006)
- (A) change in weather
 - (B) sinking of islands
 - (C) loss of vegetation
 - (D) extinction of animals
- 126.** In which of the following frequency ranges the human ear is most sensitive to noise:
- (A) 1 - 2 KHz
 - (B) 100 - 500 Hz
 - (C) 10 - 12 KHz
 - (D) 13 - 16 KHz
- Consider the following about the Himalayan orogeny
- A) The orogeny resulted from the southward movement
 - B) The orogeny began about 25 million years ago
 - C) The orogeny closed about 1 million years ago
 - D) The Himalayas have a root of relatively light crustal rocks projecting into the denser mantle.
- 127.** Which of the following combinations is correct?
- (A) A and B
 - (B) C and D
 - (C) A and C
 - (D) B and D
- 128.** A seismogram records the following types of earthquake waves.
- I L - waves
 - II P - waves
 - III S - waves
- The correct chronological sequence of the arrival of these waves is
- (A) B,C and D
 - (B) B, A and C
 - (C) C,A and B
 - (D) A,B and C arrive at the same time

- 129.** Which one of the following statement is true of braided streams?
(A) Width and depth of the channel are equal
(B) Width of the channel is greater than its depth
(C) Width of the channel is unrelated to its depth
(D) Width of the channel is less than its depth
- 130.** With absorption and decomposition of CO_2 in ocean water beyond desired level, there will be: (DECEMBER-2006)
(A) decrease in temperature
(B) increase in salinity
(C) growth of phytoplankton
(D) rise in sea level
- 131.** The maximum emission of pollutants from fuel sources in India is caused by: (DECEMBER-2006)
(A) Coal
(B) Firewood
(C) Refuse burning
(D) Vegetable waste product
- 132.** The urbanisation process accounts for the wind in the urban centres during nights to remain: (DECEMBER-2006)
(A) faster than that in rural areas
(B) slower than that in rural areas
(C) the same as that in rural areas
(D) cooler than that in rural areas
- 133.** Which of the following methods will you choose to prepare choropleth map of India showing urban density of population: (JUNE-2007)
(A) Quartiles
(B) Quintiles
(C) Mean and SD
(D) Break - point
- 134.** Which of the following methods is best suited to show on a map the types of crops being grown in a region (JUNE-2007)
(A) Choropleth
(B) Chorochromatic
(C) Choroschematic
(D) Isopleth
- 135.** A ratio represents the relation between: (JUNE-2007)
(A) Part and Part
(B) Part and Whole
(C) Whole and Whole
(D) All of the above
- 136.** Assertion (A) : Aerosols have potential for modifying the climate.
Reason (R): Aerosols interact with both short wave and infra - red radiations.
(A) Both (A) and (R) are true and (R) is the correct explanation of (A) .
(B) Both (A) and (R) are true but (R) is not the correct explanation of (A) .
(C) (A) is true and (R) is false
(D) (A) is false but (R) is true
- 137.** Which of the following grows rapidly resulting in the shrinkage of water bodies?
(A) Phytoplankton
(B) Zooplankton
(C) Algae
(D) Macrophytes
- 138.** Which species of chromium is toxic in water?
(A) Cr^{+2}
(B) Cr^{+3}
(C) Cr^{+6}
(D) Cr^0
- 139.** Chemical compounds having same crystal structure are called
(A) Polymorphic
(B) Pseudomorphic
(C) Isomorphic
(D) None of the above

- 140.** Micas having an atomic structure defined as continuous sheets of tetrahedrons, sharing 3-oxygen atoms, are called:
- (A) Inosilicate
(B) Phyllosilicate
(C) Tectosilicate
(D) Sorosilicate
- 141.** If the population growth follows a logistic curve, the maximum sustainable yield:
- (A) is equal to half the carrying capacity
(B) is equal to the carrying capacity
(C) depends on growth rate
(D) depends on the initial population
- 142.** Fluidized - bed combustion of coal is an efficient method of controlling which of the following air pollutants:
- (A) CO
(B) SPM and NO_x
(C) NO_x and SO_x
(D) CO, SPM and SO_x
- 143.** An increase of 10 ppm in the concentration of CO, in atmosphere represents approximately an addition of carbon of amount:
- (A) 1.2 Kilotons
(B) 2.12 Megatons
(C) 21.2 Geiga tons
(D) 2120 tons
- 144.** Tsunami occurs due to: (JUNE-2007)
- (A) Mild earthquakes and landslides in the oceans
(B) Strong earthquakes and landslides in the oceans
(C) Strong earthquakes and landslides in mountains
(D) Strong earthquakes and landslides in deserts
- 145.** Which of the natural hazards have big effect on Indian people each year? (JUNE-2007)
- (A) Cyclones
(B) Floods
(C) Earthquakes
(D) Landslides

4.17 Previous year questions

- 1.** The arsenic pollution in ground water in Bangladesh and parts of India is due to
- (A) industrial waste
(B) thermal power plants
(C) natural sources
(D) agricultural practices
- 2.** Among the following air pollutants which directly impacts human health as well as climate?
- (A) Soot
(B) Sulphur dioxide
(C) Oxides of nitrogen
(D) Chlorofluoro carbons
- 3.** Assertion (A) : The problems of environmental sustainability are difficult to resolve.
Reason (R): Our understanding how environment works and how different human choices affect environment is inadequate. Choose the correct code:
- (A) Both (A) and (R) are correct and (R) is the correct explanation of (A) .
(B) Both (A) and (R) are correct, but (R) is not the correct explanation of (A) .
(C) (A) is true and (R) is false.
(D) (A) is false and (R) is true.
- 4.** The percentage share of electrical power from solar energy in the total electric

- power generation from all renewable energy sources sought to be achieved by Indian government by the year 2022, is
- (A) 57.1%
 (B) 65.5%
 (C) 47.5%
 (D) 75%
- 5.** As part of Intended Nationally Determined contributions, Indian government through additional forest and tree cover has resolved to create an additional carbon sink (in terms of carbon dioxide equivalent) by year 2030 to the extent of
- (A) 3.5 to 4 billion tons
 (B) 2.5 to 3 billion tons
 (C) 1.5 to 2 billion tons
 (D) 1 to 1.5 billion tons
- 6.** Which of the following is a meteorological hazard?
- (A) Avalanche
 (B) Coastal erosion
 (C) Landslide
 (D) Blizzard
- 7.** Which of the following is the largest source of water pollution in major rivers of India?
- (A) Untreated sewage
 (B) Agriculture run-off
 (C) Unregulated small scale industries
 (D) Religious practices
- 8.** Sustainable development goals have specific targets to be achieved by
- (A) 2022
 (B) 2030
 (C) 2040
 (D) 2050
- 9.** Indian governments target of producing power from biomass by the year 2022, is
- (A) 50 MW
 (B) 25 MW
 (C) 15 MW
 (D) 10 MW
- 10.** Assertion (A) : Conserving our soil resources is critical to human survival. Reason (R): Soil is home to many microorganisms and contains minerals. Choose the correct code:
- (A) Both (A) and (R) are correct and (R) is the correct explanation of (A) .
 (B) Both (A) and (R) are correct but (R) is not the correct explanation of (A) .
 (C) (A) is true and (R) is false.
 (D) (A) is false and (R) is true.
- 11.** World Meteorological Organizations (WMO) objective has been to reduce the number of deaths due to hydro meteorological disasters over the decade 2010-2019 by (with reference to the decade 1994-2003)
- (A) 25%
 (B) 50%
 (C) 75%
 (D) 80%
- 12.** Identify the air pollutant in urban areas which irritates eyes and also respiratory tract of human beings.
- (A) Particulate matter
 (B) Oxides of nitrogen
 (C) Surface ozone
 (D) Carbon monoxide
- 13.** Which of the following phenomena is not a natural hazard?
- (A) Wildfire
 (B) Lightning
 (C) Landslide
 (D) Chemical contamination

- 14.** As part of National Climate Change Policy, Indian government is planning to raise the installed capacity of renewable energy by the year 2030 to
- (A) 175 GW
(B) 200 GW
(C) 250 GW
(D) 350 GW
- 15.** At present, in terms of per capita energy consumption (kWh/year), identify the correct sequence.
- (A) *Brazil > Russia > China > India*
(B) *Russia > China > India > Brazil*
(C) *Russia > China > Brazil > India*
(D) *China > Russia > Brazil > India*
- 16.** Inside rural homes, the source/sources of Nitrogen Oxide Pollution may be:
- a) Unvented gas stoves
b) Wood stoves
c) Kerosene heaters
- Choose the correct code:
- (A) (a) and (b) only
(B) (b) and (c) only
(C) (b) only
(D) (a), (b) and (c)
- 17.** Which of the following pollutants can cause cancer in humans ?
- (A) Pesticides
(B) Mercury
(C) Lead
(D) Ozone
- 18.** Assertion (A): People population control measures do not necessarily help in checking environmental degradation. Reason (R): The relationship between population growth and environmental degradation is rather complex. Choose the correct answer from the following
- (A) Both (A) and (R) are true and (R) is the correct explanation of (A).
(B) Both (A) and (R) are true but (R) is not the correct explanation of (A).
(C) (A) is true but (R) is false.
(D) (A) is false but (R) is true.
- 19.** In which of the countries per capita use of water is maximum
- (A) USA
(B) European Union
(C) China
(D) India
- 20.** India's contribution to total global carbon dioxide emissions is about
- (A) 3 PERC
(B) 6 PERC
(C) 10 PERC
(D) 15 PERC
- 21.** Two earthquakes A and B happen to be of magnitude 5 and 6 respectively on Richter Scale. The ratio of the energies released EB/EA will be approximately
- (A) 8
(B) 16
(C) 32
(D) 64
- 22.** Which of the following combinations represent renewable natural resources
- (A) Fertile soil, fresh water and natural gas
(B) Clean air, phosphates and biological diversity
(C) Fishes, fertile soil and fresh water
(D) Oil, forests and tides
- 23.** In the recently launched Air Quality Index in India, which of the following pollutants is not included
- (A) Carbon monoxide
(B) Fine particulate matter
(C) Ozone
(D) Chlorofluorocarbons

- 24.** The factors which are most important in determining the impact of anthropogenic activities on environment are
 (A) Population, affluence per person, land available per person are
 (B) Population, affluence per person and the technology used for exploiting resources
 (C) Atmospheric conditions, population and forest cover
 (D) Population, forest cover and land available per person
- 25.** In terms of total CO₂ emissions from a country, identify the correct sequence:
 (A) *U.S.A. > China > India > Russia*
 (B) *China > U.S.A. > India > Russia*
 (C) *China > U.S.A. > Russia > India*
 (D) *U.S.A. > China > Russia > India*
- 26.** Match List - I and List - II and identify the correct code:
- | | |
|-------------------------|-------------------|
| a. World Health Day | i. 16th September |
| b. World Population Day | ii. 1st December |
| c. World Ozone Day | iii. 11th July |
| d. World AIDS Day | iv. 7th April |
- (A) *a – i, b – ii, c – iii, d – iv*
 (B) *a – iv, b – iii, c – i, d – ii*
 (C) *a – ii, b – iii, c – iv, d – i*
 (D) *a – iii, b – iv, c – ii, d – i*
- 27.** Which of the anthropogenic activity accounts for more than 2/3rd of global water consumption?
 (A) Agriculture
 (B) Hydropower generation
 (C) Industry
 (D) Domestic and Municipal usage
- 28.** One of the anthropogenic sources of gaseous pollutants chlorofluorocarbons (CFCs) in air is
 (A) Cement Industry
 (B) Fertiliser industry
 (C) Foam industry
 (D) Pesticide industry
- 29.** The cyclone Hudhud hit the coast of which State?
 (A) Andhra Pradesh
 (B) Karnataka
 (C) Kerala
 (D) Gujarat
- 30.** Which of the following is not a renewable natural resource?
 (A) Clean air
 (B) Fresh water
 (C) Fertile soil
 (D) Salt
- 31.** The population of India is about 1.2 billion. Take the average consumption of energy per person per year in India as 30 Mega Joules. If this consumption is met by carbon based fuels and the rate of carbon emissions per kilojoule is 15×10^6 kgs, the total carbon emissions per year from India will be
 (A) 54 million metric tons
 (B) 540 million metric tons
 (C) 5400 million metric tons
 (D) None of the above
- 32.** Which of the following cities has been worst affected by urban smog in recent times?
 (A) Paris
 (B) London
 (C) Los Angeles
 (D) Beijing

33. The primary source of organic pollution in fresh water bodies is

- (A) run-off urban areas
- (B) run-off from agricultural forms
- (C) sewage effluents
- (D) industrial effluents

34. 'Lahar' is a natural disaster involving

- (A) eruption of large amount of material
- (B) strong winds
- (C) strong water waves
- (D) strong wind and water waves

35. In order to avoid catastrophic consequences of climate change, there is general agreement among the countries of the world to limit the rise in average surface temperature of earth compared to that of pre-industrial times by

- (A) 1.5 oC to 2 oC
- (B) 2.0 oC to 3.5 oC
- (C) 0.5 oC to 1.0 oC
- (D) 0.25 oC to 0.5 oC

36. The National Disaster Management Authority functions under the Union Ministry of

- (A) Environment
- (B) Water Resources
- (C) Home Affairs
- (D) Defence

37. Match List - I and List - II and select the correct answer from the codes given below:

List - I	List - II
(a) Flood	(1) Lack of rainfall of sufficient duration
(b) Drought	(2) Tremors produced by the passage of vibratory waves through the rocks of the earth
(c) Earthquake	(3) A vent through which molted substances come out
(d) Valcano	(4) Excess rain and uneven distribution of water

- (A) $a - 4, b - 1, c - 2, d - 3$
- (B) $a - 2, b - 3, c - 4, d - 1$
- (C) $a - 3, b - 4, c - 2, d - 1$
- (D) $a - 4, b - 3, c - 1, d - 2$

38. Which one of the following green house gases has the shortest residence time in the atmosphere?

- (A) Chlorofluorocarbon
- (B) Carbon dioxide
- (C) Methane
- (D) Nitrous oxide

39. Consider the following statements and select the correct answer from the code given below:

- i) Rajasthan receives the highest solar radiation in the country.
- ii) India has the fifth largest installed wind power in the world.
- iii) The maximum amount of wind power is contributed by Tamil Nadu.
- iv) The primary source of uranium in India is Jaduguda.

- (A) (i) and (ii)
- (B) (i), (ii) and (iii)
- (C) (ii) and (iii)
- (D) (i) and (iv)

- 40.** Arrange the following books in chronological order in which they appeared. Use the code given below:
- Limits to Growth
 - Silent Spring
 - Our Common Future
 - Resourceful Earth
- Codes:
- (A) (i), (iii), (iv), (ii)
(B) (ii), (iii), (i), (iv)
(C) (ii), (i), (iii), (iv)
(D) (i), (ii), (iii), (iv)
- 41.** Which one of the following continents is at a greater risk of desertification?
- (A) Africa
(B) Asia
(C) South America
(D) North America
- 42.** “Women are closer to nature than men.” What kind of perspective is this?
- (A) Realist
(B) Essentialist
(C) Feminist
(D) Deep ecology
- 43.** Which one of the following is not a matter a global concern in the removal of tropical forests?
- (A) Their ability to absorb the chemicals that contribute to depletion of ozone layer.
(B) Their role in maintaining the oxygen and carbon balance of the earth.
(C) Their ability to regulate surface and air temperatures, moisture content and reflectivity.
(D) Their contribution to the biological diversity of the planet.
- 44.** The most comprehensive approach to address the problems of man-environment interaction is one of the following:
- (A) Natural Resource Conservation Approach
(B) Urban-industrial Growth Oriented Approach
(C) Rural-agricultural Growth Oriented Approach
(D) Watershed Development Approach
- 45.** The major source of the pollutant gas, carbon mono-oxide (CO), in urban areas is
- (A) Thermal power sector
(B) Transport sector
(C) Industrial sector
(D) Domestic sector
- 46.** In a fuel cell driven vehicle, the energy is obtained from the combustion of
- (A) Methane
(B) Hydrogen
(C) LPG
(D) CNG
- 47.** By the year 2022, the Climate Change Action Plan of Government of India aims at installing
- (A) 20,000 MW of wind power
(B) 25,000 MW of wind power
(C) 20,000 MW of solar power
(D) 10,000 MW of solar power
- 48.** Which one of the following biosphere reserves has UNESCO recognition?
- (A) Manas
(B) Kanchenjunga
(C) Seshachalam Hills
(D) Greater Nicobar
- 49.** Which activity contributes to water pollution more than any other throughout world ?
- (A) Agriculture
(B) Hydroelectric power generation
(C) Industry
(D) Urbanisation

- 50.** Match List - I with List - II and find the correct answer from the codes given below:

List - I (Biosphere Reserve)	List - II (Area of Location)
a. Nilgiri	i. Deccan Peninsula
b. Manas	ii. Chhattisgarh
c. Similipal	iii. Eastern Himalaya
d. Achanakmar-Amarkantak	iv. Western Ghat

- (A) $a - i, b - ii, c - iii, d - iv$
 (B) $a - ii, b - iii, c - iv, d - i$
 (C) $a - iii, b - iv, c - ii, d - i$
 (D) $a - iv, b - iii, c - i, d - ii$
- 51.** G5 are the five most important emerging economies of world. Which one of the following does not form part of G5?
 (A) Mexico
 (B) Brazil
 (C) China
 (D) Korea
- 52.** Which of the following nations has the maximum per capita emissions of carbon di-oxide?
 (A) China
 (B) Japan
 (C) USA
 (D) India
- 53.** The world population growth rate at a certain reference year was 3.5%. Assuming exponential growth of population, after how many years, the population of the world would have increased by a factor 16?
 (A) ≈ 80 years
 (B) ≈ 40 years
 (C) ≈ 160 years
 (D) ≈ 320 years
- 54.** The phrase "tragedy of commons" is in the context of
 (A) tragic even related to damage caused by release of poisonous gases.
 (B) tragic conditions of poor people.
 (C) degradation of renewable free access resources.
 (D) climate change.
- 55.** Kyoto Protocol is related to
 (A) Ozone depletion
 (B) Hazardous waste
 (C) Climate change
 (D) Nuclear energy
- 56.** Which of the following is a source of emissions leading to the eventual formation of surface ozone as a pollutant?
 (A) Transport sector
 (B) Refrigeration and Air-conditioning
 (C) Wetlands
 (D) Fertilizers
- 57.** The smog in cities in Indian mainly consists of
 (A) Oxides of sulphur
 (B) Oxides of nitrogen and unburnt hydrocarbons
 (C) Carbon monoxide and SPM
 (D) Oxides of sulphur and ozone
- 58.** Which of the following types of natural hazards have the highest potential to cause damage to humans?
 (A) Earthquakes
 (B) Forest fires
 (C) Volcanic eruptions
 (D) Droughts and Floods
- 59.** The percentage share of renewable energy sources in the power production in India is around
 (A) 2 – 3%
 (B) 22 – 25%
 (C) 10 – 12%
 (D) < 1%

- 60.** Which of the following is a source of methane?
(A) Wetlands
(B) Foam Industry
(C) Thermal Power Plants
(D) Cement Industry
- 61.** 'Minamata disaster' in Japan was caused by pollution due to
(A) Lead
(B) Mercury
(C) Cadmium
(D) Zinc
- 62.** Biomagnification means increase in the
(A) concentration of pollutants in living organisms
(B) number of species
(C) size of living organisms
(D) biomass
- 63.** Nagoya Protocol is related to
(A) Climate change
(B) Ozone depletion
(C) Hazardous waste
(D) Biodiversity
- 64.** The second most important source after fossil fuels contributing to India's energy needs is
(A) Solar energy
(B) Nuclear energy
(C) Hydropower
(D) Wind energy
- 65.** In case of earthquakes, an increase of magnitude 1 on Richter Scale implies
(A) a ten-fold increase in the amplitude of seismic waves.
(B) a ten-fold increase in the energy of the seismic waves.
(C) two-fold increase in the amplitude of seismic waves.
(D) two-fold increase in the energy of seismic waves.
- 66.** Which of the following is not a measure of Human Development Index?
(A) Literacy Rate
(B) Gross Enrolment
(C) Sex Ratio
(D) Life Expectancy
- 67.** Irritation in eyes is caused by the pollutant
(A) Sulphur di-oxide
(B) Ozone
(C) PAN
(D) Nitrous oxide
- 68.** Which is the source of chlorofluorocarbons ?
(A) Thermal power plants
(B) Automobiles
(C) Refrigeration and Airconditioning
(D) Fertilizers
- 69.** Which of the following is not a renewable natural resource ?
(A) Clean air
(B) Fertile soil
(C) Fresh water
(D) Salt
- 70.** Which of the following parameters is not used as a pollution indicator in water ?
(A) Total dissolved solids
(B) Coliform count
(C) Dissolved oxygen
(D) Density
- 71.** S and P waves are associated with
(A) floods
(B) wind energy
(C) earthquakes
(D) tidal energy

- 72.** Match Lists I and II and select the correct answer from the codes given below :

List – I	List – II
(i) Ozone hole	(a) Tsunami
(ii) Greenhouse effect	(b) UV radiations
(iii) Natural hazards	(c) Methane
(iv) Sustainable development	(d) Eco-centrism

- (A) $i - (b), ii - (c), iii - (a), iv - (d)$
 (B) $i - (c), ii - (b), iii - (a), iv - (d)$
 (C) $i - (d), ii - (c), iii - (a), iv - (b)$
 (D) $i - (d), ii - (b), iii - (c), iv - (a)$
- 73.** Which of the following pollutants affects the respiratory tract in humans?
 (A) Carbon monoxide
 (B) Nitric oxide
 (C) Sulphur di-oxide
 (D) Aerosols
- 74.** Which of the following pollutants is not emitted from the transport sector?
 (A) Oxides of nitrogen
 (B) Chlorofluorocarbons
 (C) Carbon monoxide
 (D) Poly aromatic hydrocarbons
- 75.** Which of the following sources of energy has the maximum potential in India?
 (A) Solar energy
 (B) Wind energy
 (C) Ocean thermal energy
 (D) Tidal energy
- 76.** Which of the following is not a source of pollution in soil?
 (A) Transport sector
 (B) Agriculture sector
 (C) Thermal power plants
 (D) Hydropower plants
- 77.** Which of the following is not a natural hazard?
 (A) Earthquake
 (B) Tsunami
 (C) Flash floods
 (D) Nuclear accident
- 78.** Ecological footprint represents
 (A) Area of productive land and water to meet the resources requirement
 (B) Energy consumption
 (C) CO₂ emissions per person
 (D) Forest cover
- 79.** The Ganga Action Plan was initiated during the year
 (A) 1986
 (B) 1988
 (C) 1990
 (D) 1992
- 80.** Identify the correct sequence of energy sources in order of their share in the power sector in India :
 (A) *Thermal > nuclear > hydro > wind*
 (B) *Thermal > hydro > nuclear > wind*
 (C) *Hydro > nuclear > thermal > wind*
 (D) *Nuclear > hydro > wind > thermal*
- 81.** Chromium as a contaminant in drinking water in excess of permissible levels, causes
 (A) Skeletal damage
 (B) Gastrointestinal problem
 (C) Dermal and nervous problems
 (D) Liver/Kidney problems
- 82.** The main precursors of winter smog are
 (A) N₂O and hydrocarbons
 (B) NO_x and hydrocarbons
 (C) SO₂ and hydrocarbons
 (D) SO₂ and ozone

- 83.** Flash floods are caused when
(A) the atmosphere is convectively unstable and there is considerable vertical wind shear
(B) the atmosphere is stable
(C) the atmosphere is convectively unstable with no vertical windshear
(D) winds are catabatic
- 84.** In mega cities of India, the dominant source of air pollution is
(A) transport sector
(B) thermal power
(C) municipal waste
(D) commercial sector
- 85.** Which of the following is not covered in 8 missions under the Climate Action Plan of Government of India?
(A) Solar power
(B) Waste to energy conversion
(C) Afforestation
(D) Nuclear energy
- 86.** The concentration of Total Dissolved Solids (TDS) in drinking water should not exceed
(A) 500 mg/L
(B) 400 mg/L
(C) 300 mg/L
(D) 200 mg/L
- 87.** 'Chipko' movement was first started by
(A) Arundhati Roy
(B) Medha Patkar
(C) Ila Bhatt
(D) Sunderlal Bahuguna
- 88.** The constituents of photochemical smog responsible for eye irritation are
(A) SO₂ and O₃
(B) SO₂ and NO₂
(C) HCHO and PAN
(D) SO₂ and SPM
- 89.** Assertion (A) : Some carbonaceous aerosols may be carcinogenic.
Reason (R): They may contain polycyclic aromatic hydrocarbons (PAHs).
(A) Both A and (R) are correct and (R) is the correct explanation of A .
(B) Both A and (R) are correct but (R) is not the correct explanation of A .
(C) A is correct, but (R) is false.
(D) A is false, but (R) is correct.
- 90.** Volcanic eruptions affect
(A) atmosphere and hydrosphere
(B) hydrosphere and biosphere
(C) lithosphere, biosphere and atmosphere
(D) lithosphere, hydrosphere and atmosphere
- 91.** Which type of natural hazards cause maximum damage to property and lives?
(A) Hydrological
(B) Hydro-meteorological
(C) Geological
(D) Geo-chemical
- 92.** Dioxins are produced from
(A) Wastelands
(B) Power plants
(C) Sugar factories
(D) Combustion of plastics
- 93.** The slogan "A tree for each child" was coined for
(A) Social forestry programme
(B) Clean Air programme
(C) Soil conservation programme
(D) Environmental protection programme
- 94.** The main constituents of biogas are
(A) Methane and Carbon di-oxide
(B) Methane and Nitric oxide
(C) Methane, Hydrogen and Nitric oxide
(D) Methane and Sulphur di-oxide

- 95.** Assertion (A): In the world as a whole, the environment has degraded during past several decades.
Reason (R): The population of the world has been growing significantly.
(A) A is correct, (R) is correct and (R) is the correct explanation of A .
(B) A is correct, (R) is correct and (R) is not the correct explanation of A .
(C) A is correct, but (R) is false.
(D) A is false, but (R) is correct.
- 96.** Climate change has implications for
1. Soil moisture
2. Forest fires
3. Biodiversity
4. Ground water
Identify the correct combination according to the code: Codes :
(A) 1 and 3
(B) 1, 2 and 3
(C) 1, 3 and 4
(D) 1, 2, 3 and 4
- 97.** The great Indian Bustard bird is found in
(A) Thar Desert of Rajasthan
(B) Coastal regions of India
(C) Malabar Coast
(D) Delta regions
- 98.** The Sagarmanthan National Park has been established to preserve the ecosystem of which mountain peak?
(A) Kanchenjunga
(B) Mount Everest
(C) Annapurna
(D) Dhaulavira
- 99.** Maximum soot is released from
(A) Petrol vehicles
(B) CNG vehicles
(C) Diesel vehicles
(D) Thermal Power Plants
- 100.** Surface Ozone is produced from
(A) Transport sector
(B) Cement plants
(C) Textile industry
(D) Chemical industry
- 101.** Which one of the following non-conventional energy sources can be exploited most economically?
(A) Solar
(B) Wind
(C) Geo-thermal
(D) Ocean Thermal Energy Conversion (OTEC)
- 102.** The most recurring natural hazard in India is
(A) Earthquakes
(B) Floods
(C) Landslides
(D) Volcanoes
- 103.** Environmental impact assessment is an objective analysis of the probable changes in:
(A) physical characteristics of the environment
(B) biophysical characteristics of the environment
(C) socio-economic characteristics of the environment
(D) all the above
- 104.** Bog is a wetland that receives water from:
(A) nearby water bodies
(B) melting
(C) rain fall only
(D) sea only
- 105.** Which of the following region is in the very high risk zone of earthquakes?
(A) Central Indian Highland
(B) Coastal region
(C) Himalayan region
(D) Indian desert

- 106.** Match List-I with List-II and select the correct answer using the codes given below:

List-I (Institutes)	List-II (Cities)
(a) Central Arid Zone Institute	(i) Kolkata
(b) Space Application Centre	(ii) New Delhi
(c) Indian Institute of Public Administration	(iii) Ahmedabad
(d) Headquarters of Indian Science Congress	(iv) Jodhpur

- (A) $a - (iv), b - (iii), c - (ii), d - (i)$
 (B) $a - (iv), b - (ii), c - (i), d - (iii)$
 (C) $a - (iii), b - (i), c - (ii), d - (iv)$
 (D) $a - (i), b - (ii), c - (iv), d - (iii)$
- 107.** Indian coastal areas experienced Tsunami disaster in the year:
 (A) 2005
 (B) 2004
 (C) 2006
 (D) 2007
- 108.** Which of the following pairs regarding typical composition of hospital wastes is incorrect?
 (A) Plastic- 9-12%
 (B) Metals- 1-2%
 (C) Ceramic- 8-10%
 (D) Biodegradable- 35-40%
- 109.** Fresh water achieves its greatest density at:
 (A) -4°C
 (B) 0°C
 (C) 4°C
 (D) -2.5°C

- 110.** Which one of the following is not associated with earthquakes?

(A) Focus
 (B) Epicenter
 (C) Seismograph
 (D) Swells

- 111.** The tallest trees in the world are found in the region :

(A) Equatorial region
 (B) Temperate region
 (C) Monsoon region
 (D) Mediterranean region

- 112.** Match List-I with List-II and select the correct answer from the codes given below:

List-I (National Parks)	List - II (States)
(a) Periyar	(i) Orissa
(b) Nandan Kanan	(ii) Kerala
(c) Corbett National Park	(iii) Rajasthan
(d) Sariska Tiger Reserve	(iv) Uttarakhand

- (A) $a - (ii), b - (i), c - (iv), d - (iii)$
 (B) $a - (i), b - (ii), c - (iv), d - (iii)$
 (C) $a - (iii), b - (ii), c - (i), d - (iv)$
 (D) $a - (i), b - (ii), c - (iii), d - (iv)$
- 113.** Human ear is most sensitive to noise in which of the following ranges:
 (A) 20 Hz -20 KHz
 (B) 100-500 Hz
 (C) 10-12 KHz
 (D) 13-16 KHz
- 114.** Which one of the following units is used to measure intensity of noise?
 (A) decibel
 (B) Hz
 (C) Phon
 (D) Watts/m²

- 115.** If the population growth follows a logistic curve, the maximum sustainable yield:
- (A) is equal to half the carrying capacity.
 - (B) is equal to the carrying capacity.
 - (C) depends on growth rates.
 - (D) depends on the initial population.

- 116.** Chemical weathering of rocks is largely dependent upon:
- (A) high temperature
 - (B) strong wind action
 - (C) heavy rainfall
 - (D) glaciation

- 117.** Structure of earth's system consists of the following: Match List-I with List-II and give the correct answer.

List-I (Zone)	List-II (Chemical Character)
(a) Atmosphere	(i) Inert gases
(b) Biosphere	(ii) Salt, fresh water, snow and ice
(c) Hydrosphere	(iii) Organic substances, skeleton matter
(d) Lithosphere	(iv) Light silicates

Codes:

- (A) $a - (ii), b - (iii), c - (i), d - (iv)$
 - (B) $a - (i), b - (iii), c - (ii), d - (iv)$
 - (C) $a - (ii), b - (i), c - (iii), d - (iv)$
 - (D) $a - (iii), b - (i), c - (ii), d - (iv)$
- 118.** Deforestation during the recent decades has led to:
- (A) Soil erosion
 - (B) Landslides
 - (C) Loss of bio-diversity
 - (D) All the above

- 119.** Which one of the following natural hazards is responsible for causing highest human disaster?
- (A) Earthquakes
 - (B) Snow-storms
 - (C) Volcanic eruptions
 - (D) Tsunami

- 120.** Which one of the following is appropriate for natural hazard mitigation?
- (A) International AID
 - (B) Timely Warning System
 - (C) Rehabilitation
 - (D) Community Participation

- 121.** Slums in metro-city are the result of:
- (A) Rural to urban migration
 - (B) Poverty of the city-scape
 - (C) Lack of urban infrastructure
 - (D) Urban-governance

- 122.** The great Indian Bustard bird is found in:
- (A) Thar Desert of India
 - (B) Coastal regions of India
 - (C) Temperate Forests in the Himalaya
 - (D) Tarai zones of the Himalayan Foot

- 123.** Tsunami occurs due to:
- (A) Mild earthquakes and landslides in the oceans
 - (B) Strong earthquakes and landslides in the oceans
 - (C) Strong earthquakes and landslides in mountains
 - (D) Strong earthquakes and landslides in deserts

- 124.** Which of the natural hazards have big effect on Indian people each year?
- (A) Cyclones
 - (B) Floods
 - (C) Earthquakes
 - (D) Landslides

125. Comparative Environment Impact Assessment study is to be conducted for:

- (A) the whole year
- (B) three seasons excluding monsoon
- (C) any three seasons
- (D) the worst season

126. Sea level rise results primarily due to:

- (A) Heavy rainfall
- (B) Melting of glaciers
- (C) Submarine volcanism
- (D) Seafloor spreading

127. The plume rise in a coal based power plant depends on: (i) Buoyancy (ii) Atmospheric stability (iii) Momentum of exhaust gases Identify the correct code:

- (A) (i) and (ii) only
- (B) (ii) and (iii) only
- (C) (i) and (iii) only
- (D) (i), (ii) and (iii)

128. The most significant impact of volcanic eruption has been felt in the form of:

- (A) change in weather
- (B) sinking of islands
- (C) loss of vegetation
- (D) extinction of animals

129. With absorption and decomposition of CO₂ in ocean water beyond desired level, there will be:

- (A) decrease in temperature
- (B) increase in salinity
- (C) growth of phytoplankton
- (D) rise in sea level

130. Arrange column II in proper sequence so as to match it with column I and choose the correct answer from the code given below:

Column I	Column II
Water Quality	pH Value
(a) Neutral	(i) 5
(b) Moderately acidic	(ii) 7
(c) Alkaline	(iii) 4
(d) Injurious	(iv) 8

- (A) $a - (ii), b - (iii), c - (i), d - (iv)$
- (B) $a - (i), b - (iii), c - (ii), d - (iv)$
- (C) $a - (ii), b - (i), c - (iv), d - (iii)$
- (D) $a - (iv), b - (ii), c - (iii), d - (i)$

131. The maximum emission of pollutants from fuel sources in India is caused by:

- (A) Coal
- (B) Firewood
- (C) Refuse burning
- (D) Vegetable waste product

132. The urbanisation process accounts for the wind in the urban centres during nights to remain:

- (A) faster than that in rural areas
- (B) slower than that in rural areas
- (C) the same as that in rural areas
- (D) cooler than that in rural areas

133. Water is always involved with landslides. This is because it:

- (A) reduces the shear strength of rocks
- (B) increases the weight of the overburden
- (C) enhances chemical weathering
- (D) is a universal solvent

134. Which is the smallest North-east State in India?

- (A) Tripura
- (B) Meghalaya
- (C) Mizoram
- (D) Manipur

- 135.** Tamilnadu coastal belt has drinking water shortage due to:
(A) high evaporation
(B) sea water flooding due to tsunami
(C) over exploitation of ground water by tube wells
(D) seepage of sea water
- 136.** While all rivers of Peninsular India flow into the Bay of Bengal, Narmada and Tapi flow into the Arabian Sea because these two rivers:
(A) Follow the slope of these rift valleys
(B) The general slope of the Indian peninsula is from east to west
(C) The Indian peninsula north of the Satpura ranges, is tilted towards the west
(D) The Indian peninsula south of the Satpura ranges is tilted towards east
- 137.** Soils in the Mahanadi delta are less fertile than those in the Godavari delta because of:
(A) erosion of top soils by annual floods
(B) inundation of land by sea water
(C) traditional agriculture practices
(D) the derivation of alluvial soil from red-soil hinterland
- 138.** Assertion (A) : Aerosols have potential for modifying climate
Reason (R): Aerosols interact with both short waves and radiation
(A) Both A and (R) are true, and (R) is the correct explanation of A
(B) Both A and (R) are true, but (R) is not the correct explanation of A
(C) A is true, but (R) is false
(D) A is false, but (R) is true
- 139.** Bitumen is obtained from
(A) Forests and Plants
(B) Kerosene oil
(C) Crude oil
(D) Underground mines
- 140.** Malaria is caused by:
(A) bacterial infection
(B) viral infection
(C) parasitic infection
(D) fungal infection
- 141.** The cloudy nights are warmer compared to clear nights (without clouds) during winter days. This is because:
(A) clouds radiate heat towards the earth
(B) clouds prevent cold wave from the sky, descend on earth
(C) clouds prevent escaping of the heat radiation from the earth
(D) clouds being at great heights from earth absorb heat from the sun and send towards the earth
- 142.** Largest soil group of India is:
(A) Red soil
(B) Black soil
(C) Sandy soil
(D) Mountain soil
- 143.** Main pollutant of the Indian coastal water is
(A) oil spill
(B) municipal sewage
(C) industrial effluents
(D) aerosols
- 144.** Human ear is most sensitive to noise in the following frequency ranges:
(A) 1-2 KHz
(B) 100-500 Hz
(C) 10-12 KHz
(D) 13-16 KHz
- 145.** Which species of chromium is toxic in water:
(A) Cr+2
(B) Cr+3
(C) Cr + 6
(D) Cr is non-toxic element

- 146.** Match List - I (Dams) with List - II (River) in the following:

List - I (Dams)	List - II (River)
a. Bhakra	(i) Krishna
b. Nagarjunasagar	(ii) Damodar
c. Panchet	(iii) Sutlej
d. Hirakud	(iv) Bhagirathi
e. Tehri	(v) Mahanadi

- (A) $a - v, b - iii, c - iv, d - ii, e - i$
 (B) $a - iii, b - i, c - ii, d - v, e - iv$
 (C) $a - i, b - ii, c - iv, d - iii, e - v$
 (D) $a - ii, b - iii, c - iv, d - i, e - v$
- 147.** Global warming during winter becomes more pronounced at the:
- (A) Equator
 (B) Poles
 (C) Tropic of Cancer
 (D) Tropic of Capricorn
- 148.** In the study of man-environment interaction, the statement of Miss Semple that "the humans are solely the product of their environment", is:
- (A) An opinion
 (B) A prejudice
 (C) A fact
 (D) A widely accepted phenomenon
- 149.** In analysis of man-environment relationship Pragmatic Possibilism implies that:

- (A) There is no limit for man to exploit resources of earth
 (B) There are limited possibilities to explore earth's resources
 (C) The man has to watch and assess the situation and then go ahead with resource utilization
 (D) The man has to keep in mind only his basic needs while planning to harness the potential of resourceful earth

- 150.** Arrange Column II in proper sequence so as to match it with Column I and choose the correct answer from the codes given below:

Column I (Activity)	Column II (Noise Level)
(a) Hearing	(i) 30 dB
(b) Whispering	(ii) 1 dB
(c) Interference with sleep	(iii) 60 dB
(d) Normal talk	(iv) 30–50 dB

- (A) $a - (i), b - (ii), c - (iii), d - (iv)$
 (B) $a - (ii), b - (i), c - (iv), d - (iii)$
 (C) $a - (iv), b - (ii), c - (iii), d - (i)$
 (D) $a - (iii), b - (i), c - (ii), d - (iv)$
- 151.** The maximum loss of forest lands in India is caused by :
- (A) River valley projects
 (B) Industries
 (C) Means of transportation
 (D) Agriculture

5. Information and Communicating Technology

In this chapter we will learn about the computer and its different viewpoint. So what is a computer system?. In principle, any system is contained within a boundary, either logical or physical. The system interacts with the environment where the environment lies outside the boundary. A computer system interacts with its environment via inputs and outputs. Mind it, the computer system has no direct control over the environment it can only control what is happening inside the boundary. The system receives inputs, but it has no control over what these inputs are. At the end it gives output.

Systems can be defined in many ways. They could have the same boundary, but a different way of looking at it. It could also have a different boundary.

Computer Systems

You could look at a computer system in the following ways:

1. A tool that takes commands and returns data.
2. A collection of components that take in electrical signals and returns electrical signals.
3. A device for converting characters to binary code.
4. A component in an office workflow diagram.

5.1 Computer systems

Computer Systems

Computer is an advanced electronic device that takes raw data as input from the user and processes these data under the control of set of instructions (called program) and gives the result (output) and saves output for the future use. It can process both numerical and non-numerical (arithmetic and logical) calculations.

A computer has four functions:

1. **Input(Data)** Computer input is whatever is entered or fed into a computer system. Input can be supplied by a person (such as by using a keyboard) or by another computer or device (such as a diskette or CD-ROM). Some examples of input include the words and symbols in

a document, numbers for a calculation, instructions for completing a process, pictures, and so on.

2. **Processing** Process is the manipulating the data in many ways. This manipulation is called processing. Examples of processing include performing calculations, sorting lists of words or numbers, modifying documents and pictures according to user instructions, and drawing graphs. A computer processes data in the CPU.

Definition 5.1 Process is A systematic series of actions a computer uses to manipulate data.

3. **Output:** Output is the processed data given by computer after data processing. Output is also called as Result. We can save these results in the storage devices for the future use.
4. **Store result:** A computer must store data so that it is available for processing. Most computers have more than one location for storing data (the hard drive or C:\ and the floppy drive or A:\). The place where the computer stores the data depends on how the data is being used. The computer puts the data in one place while it is waiting to be processed and another place when it is not needed for immediate processing. The storage of data in the computer is called 'online storage' while the storage of data on computer tapes, diskettes or CD-ROMs is called 'offline storage'.

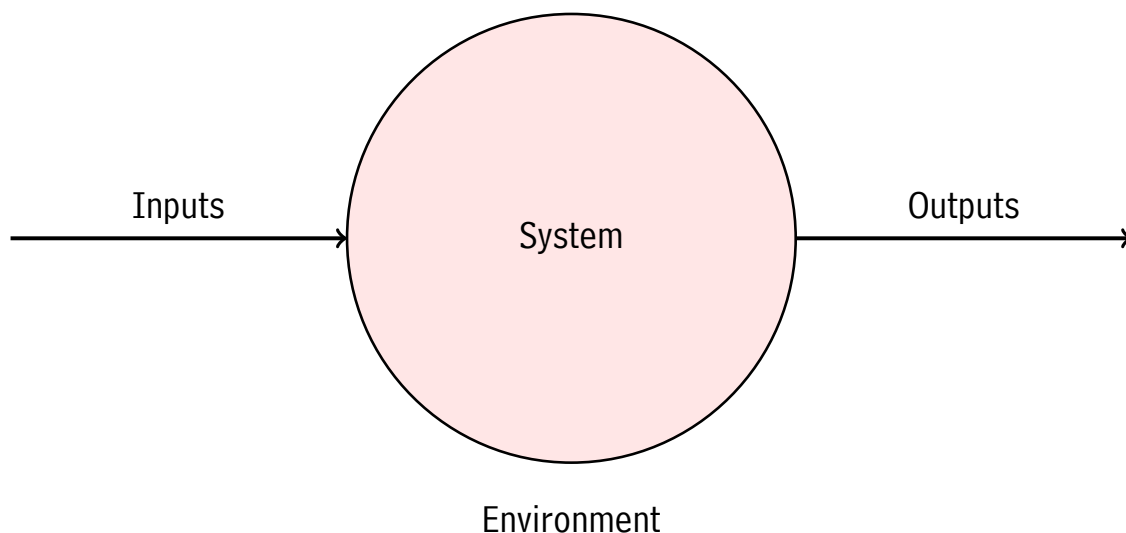


Figure 5.1: figure
View of a system

All of the components of a computer system can be summarized with the simple equation.

COMPUTER SYSTEM = HARDWARE + SOFTWARE+ USER.

- **Hardware = Internal Devices + Peripheral Devices**
All physical parts of the computer (or everything that we can touch) are known as Hardware.
- **Software = Programs**
Software gives "intelligence" to the computer.
- **USER = Person**, who operates computer.

5.1.1 Types of Computer

A computer is a programmable machine. It allows the user to store all sorts of information and then 'process' that information, or data, or carry out actions with the information, such as calculating numbers or organising words. Computers can be generally classified by size and working principle, although there can be considerable overlap. Following are descriptions of several different types of computers.

Computer as data processing Systems

1. **Data (plural):** The representation of information in a formalised manner suitable for communication, interpretation and processing, generally by a computer system.
2. **Information:** Knowledge that is communicated.
3. **Computer:** A machine that can receive and store information and change or process it

5.1.1.1 Types of Computer On the basis of working principle

- a) **Analog Computer:** An analog computer (spelt analogue in British English) is a form of computer that uses continuous physical phenomena such as electrical, mechanical, or hydraulic quantities to model the problem being solved.
- b) **Digital Computer:** A computer that performs calculations and logical operations with quantities represented as digits, usually in the binary number system.
- c) **Hybrid Computer (Analog + Digital):** A combination of computers those are capable of inputting and outputting in both digital and analog signals. A hybrid computer system setup offers a cost effective method of performing complex simulations.

5.1.1.2 Types of Computer on the basis of Size:

- a) **Super Computer:** The fastest type of computer. Supercomputers are very expensive and are employed for specialized applications that require immense amounts of mathematical calculations. For example, weather forecasting requires a supercomputer. Other uses of supercomputers include animated graphics, fluid dynamic calculations, nuclear energy research, and petroleum exploration.

The chief difference between a supercomputer and a mainframe is that a supercomputer channels all its power into executing a few programs as fast as possible, whereas a mainframe uses its power to execute many programs concurrently.

- b) **Mainframe computer:** It is large-sized, powerful multi-user computers that can support concurrent programs. That means, they can perform different actions or 'processes' at the same time. Mainframe computers can be used by as many as hundreds or thousands of users at the same time. Large organisations may use a mainframe computer to execute large-scale processes such as processing the organisation's payroll.

In the hierarchy that starts with a simple microprocessor (in watches, for example) at the bottom and moves to supercomputers at the top, mainframes are just below supercomputers. In some ways, mainframes are more powerful than supercomputers because they support more simultaneous programs. But supercomputers can execute a single program faster than a mainframe.



Figure 5.2: Indian-American uses supercomputer to make HIV evolutionary



Figure 5.3: Mainframe computer

- c) **Mini Computer:** A mid sized computer. In size and power, minicomputers lie between workstations and mainframes. In the past decade, the distinction between large minicomputers and small mainframes has blurred, however, as has the distinction between small minicomputers and workstations. But in general, a minicomputer is a multiprocessing system capable of supporting from 4 to about 200 users simultaneously.
- d) **Workstations:** It is powerful, single-user computers. They have the capacity to store and process large quantities of data, but they are only used by one person at a time. However, workstations are typically linked together to form a computer network called a local area network, which means that several people, such as staff in an office, can communicate with



Figure 5.4: Mini computer

each other and share electronic files and data.

Computer network

A grouping of computers and peripherals connected together by telecommunications links to enable a group of users to share and exchange information

A workstation is similar to a personal computer but is more powerful and often comes with a higher-quality monitor. In terms of computing power, workstations lie in between personal computers and mini-computers. Workstations commonly support applications that require relatively high-quality graphics capabilities and a lot of memory, such as desktop publishing, software development and engineering applications.

- e) **Micro Computer:** A microcomputer is a computer with a microprocessor as its central processing unit. They are physically small compared to mainframe and minicomputers. Many microcomputers (when equipped with a keyboard and screen for input and output) are also personal computers (in the generic sense).
 - i) **Desktop Computer:** A personal or micro-mini computer sufficient to fit on a desk.
 - ii) **Laptop Computer:** A portable computer complete with an integrated screen and keyboard. It is generally smaller in size than a desktop computer and larger than a notebook computer.
 - iii) **Palmtop Computer/Digital Diary /Notebook /PDAs:** A hand-sized computer. Palmtops have no keyboard but the screen serves both as an input and output device.

5.2 The Generations of Computers

The development of computers started with mechanical and electromechanical devices (17th through 19th century) and has progressed through four generations of computers.

5.2.1 Mechanical Devices:

One of the earliest mechanical calculating devices was the Pascaline, invented in 1642 by the French philosopher and mathematician Blaise Pascal. The Pascaline was a complicated set of gears that operated similarly to a clock. It was designed to only perform addition. Unfortunately, due to manufacturing problems, Pascal never got the device to work properly. Later in the 17th century Gottfried Wilhelm von Leibniz, a famous mathematician, invented a device that was supposed to be able to add and subtract, as well as multiply, divide, and calculate square roots. His device, the Stepped Reckoner, included a cylindrical wheel called the Leibniz wheel and a moveable carriage that was used to enter the number of digits in the multiplicand. However, because of mechanically unreliable parts, the device tended to jam and malfunction. In 1822 Charles Babbage began work on the Difference Engine, which was intended to calculate numbers to the 20th place and then print them at 44 digits per minute. The original purpose of this machine was to produce tables of numbers that would be used by ships' navigators. At the time, navigation tables were often highly inaccurate due to calculation errors and a number of ships were known to have been lost at sea because of these errors. Although never built, the ideas for the Difference Engine led to the design of Babbage's Analytical Engine. The Analytical Engine, designed around 1833, was supposed to perform a variety of calculations by following a set of instructions, or program, stored on punched cards. During processing, the Analytical Engine was planned to store information in a memory unit that would allow it to make decisions and then carry out instructions based on those decisions. For example, when comparing two numbers, it could be programmed to determine which was larger and then follow an appropriate set of instructions. The Analytical Engine was also never built, but its design served as a model for the modern computer.

Babbage's chief collaborator on the Analytical Engine was Ada Byron, Countess of Lovelace, the daughter of Lord Byron. Interested in mathematics, Lady Byron was a sponsor of the Analytical Engine and one of the first people to realize its power and significance. She also wrote of its achievements in order to gain support for it. Ada Byron is often called the first programmer because she wrote a program based on the design of the Analytical Engine. Babbage had hoped that the Analytical Engine would be able to think. Ada Byron, however, said that the Engine could never "originate anything," meaning that she did not believe that a machine, no matter how powerful, could think. To this day her statement about computing machines remains true.

5.2.2 Electro-Mechanical Devices:

By the end of the 19th century, U.S. Census officials were concerned about the time it took to tabulate the continuously increasing number of Americans. This counting was done every 10 years, as required by the Constitution. However, the Census of 1880 took nine years to compile which made the figures out of date by the time they were published.

In response to a contest sponsored by the U.S. Census Bureau, Herman Hollerith invented a tabulating machine that used electric-



Figure 5.5: *
Blaise Pascal(1623-1662)



Figure 5.6: *
Charles Babbage(1792-1871)

ity rather than mechanical gears. Holes representing information to be tabulated were punched in cards, with the location of each hole representing a specific piece of information (male, female, age, etc.). The cards were then inserted into the machine and metal pins used to open and close electrical circuits. If a circuit was closed, a counter was increased by one.

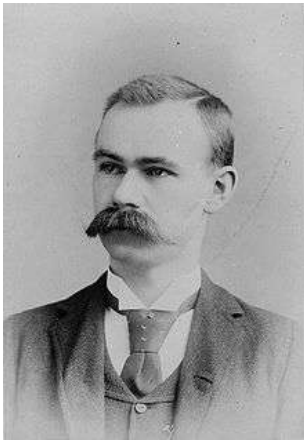


Figure 5.7: *
Herman Hollerith(1860-1929)

Hollerith's machine was immensely successful. The general count of the population, then 63 million, took only six weeks to compile. Although the full statistical analysis took seven years, it was still an improvement over the nine years it took to compile the previous census. Based on the success of his tabulating machine, Herman Hollerith started the Tabulating Machine Company in 1896. In 1924, the company was taken over by International Business Machines (IBM)

The first electronic computer was built based on vacuum tube technology between 1939 and 1942 at Iowa State University by John Atanasoff, a math and physics professor, and Clifford Berry, a graduate student. Vacuum tubes were used to perform logic operations and to store data. Generations of computers has been divided into five according to the development of technologies used to fabricate the processors, memories and I/O units.. The Atanasoff-Berry Computer (ABC) used the binary number system of 1s and 0s that is still used in computers today. It contained hundreds of vacuum tubes and stored numbers for calculations by electronically burning holes in sheets of paper. The output of calculations was displayed on an odometer type of device. The patent application for the ABC was not handled properly, and it was not until almost 50 years later that Atanasoff received full credit for his invention. In 1990, he was awarded the Presidential Medal of Technology for his pioneering work. A working replica of the ABC was unveiled at the Smithsonian in Washington, D.C. on October 9, 1997. In June 1943, John Mauchly and J. Presper Eckert began work on the ENIAC (Electronic Numerical Integration and Calculator). It was originally a secret military project which began during World War II to calculate the trajectory of artillery shells. Built at the University of Pennsylvania, it was not finished until 1946, after the war had ended. But the great effort put into the ENIAC was not wasted. In one of its first demonstrations, ENIAC was given a problem that would have taken a team of mathematicians three days to solve. It solved the problem in twenty seconds.

The ENIAC weighed 30 tons and occupied 1500 square feet, the same area taken up by the average three bedroom house. It contained over 17,000 vacuum tubes, which consumed huge amounts of electricity and produced a tremendous amount of heat requiring special fans to cool the room.

The ABC and the ENIAC are first generation computers because they mark the beginning of the computer era.

5.2.3 The Stored Program Computer:

The ABC and ENIAC required wire pulling, replugging, and switch flipping to change their instructions. A breakthrough in the architectural design of first generation computers came as a result of

separate publications by Alan Turing and John von Neumann, both mathematicians with the idea of the stored program.

In the late 30s and 40s, Alan Turing developed the idea of a “universal machine.” He envisioned a computer that could perform many different tasks by simply changing a program rather than by changing electronic components. A program is a sequence of instructions written in a code that the computer understands.

In 1945, John von Neumann presented his idea of the stored program concept. The stored program computer would store computer instructions in a CPU (Central Processing Unit). The CPU consisted of different elements used to control all the functions of the computer electronically so that it would not be necessary to flip switches or pull wires to change instructions.

Together with Mauchly and Eckert, von Neumann designed and built the EDVAC (Electronic Discrete Variable Automatic Computer) and the EDSAC (Electronic Delay Storage Automatic Computer). These computers were designed to solve many different problems by simply entering new instructions that were stored on paper tape. The instructions were in machine language, which consists of 0s and 1s to represent the status of a switch (0 for off and 1 for on).

The third computer to employ the stored program concept was the UNIVAC (UNIVERSal Automatic Computer) built by Mauchly and Eckert. With the UNIVAC came the first computer language called C-10, which was developed by Betty Holberton. Holberton also designed the first computer keyboard and numeric keypad in an effort to make the computer more user-friendly. The first UNIVAC was sold to the U.S. Census Bureau in 1951.

These first generation computers continued to use many vacuum tubes which made them large and expensive. They were so expensive to purchase and run that only the largest corporations and the U.S. government could afford them. Their ability to perform up to 1,000 calculations per second, however, made them popular.

- Definition 5.2**
1. Vacuum tubes were used - basic arithmetic operations took few milliseconds.
 2. Consume more power with limited performance
 3. High cost and bulky.
 4. Uses assembly language- to prepare programs. These were translated into machine level language for execution.
 5. Mercury delay line memories and Electrostatic memories were used.
 6. Fixed point arithmetic was used.
 7. Punched cards and paper tape were invented to feed programs and data and to get results..
 8. Magnetic tape/magnetic drum were used as secondary memory.
 9. Mainly used for scientific computations.

Generation	Period
I Generation	1945 - 55
II Generation	1955 - 65
III Generation	1965 - 75
IV Generation	1975 - 89
V Generation	1989 to present

Table 5.1: Generation of computer

5.2.4 Second Generation Computers:

In 1947, William Shockley, John Bardeen, and Walter Brittain of Bell Laboratories invented the transistor. A transistor is a semiconductor device that could replace a vacuum tube. Transistors were much smaller than vacuum tubes, less expensive, and allowed computer to process up to 10,000 calculations per second:

Summary of second Generation computer

1. Transistors were used in place of vacuum tubes. (invented at AT&T Bell lab in 1947)
2. Small in size & Lower cost
3. Lesser power consumption and better performance.
4. Magnetic ferrite core memories were used as main memory which is a random-access nonvolatile memory.
5. Magnetic tapes and magnetic disks were used as secondary memory.
6. Hardware for floating point arithmetic operations was developed.
7. Index registers were introduced which increased flexibility of programming.
8. High level languages such as FORTRAN, COBOL etc were used - Compilers were developed to translate the high-level program into corresponding assembly language program which was then translated into machine language.
9. Separate input-output processors were developed that could operate in parallel with CPU.
10. Punched cards continued during this period also.
11. Increasingly used in business, industry and commercial organizations for preparation of payroll, inventory control, marketing, production planning, research, scientific & engineering analysis and design etc.

In the early 1960s, IBM introduced the first medium-sized computer named the Model 650. It was expensive, but much smaller than first generation computers and still capable of handling the flood of paperwork produced by many government agencies and businesses. Such organizations provided a ready market for the 650, making it popular in spite of its cost.

Second generation computers also saw a change in the way data was stored. Punched cards were replaced by magnetic tape and high speed reel-to-reel tape machines. Using magnetic tape gave computers the ability to read (access) and write (store) data quickly and reliably. Transistors made computers smaller, less expensive, and more reliable than those with vacuum tubes.

5.2.5 Third Generation Computers:

The use of integrated circuits (ICs) began the third generation of computers. In 1961, Jack Kilby and Robert Noyce, working independently, developed the IC, also called a chip. Noyce developed the integrated circuit while working at Fairchild Semiconductor. In 1968, he formed the company that is now Intel Corporation. Hundreds of transistors, as well as other electronic components and wiring could be housed within a single IC, which allowed computers to process information at a rate of millions of calculations per second. ICs are created from silicon wafers which are then etched with intricate circuits and then coated with a metallic oxide to allow the circuits to conduct electricity. The silicon wafers are housed in special plastic cases that have metal pins. The pins allow



Figure 5.8: *

Robert Noyce
1927 - 1990

the ICs to be plugged into circuit boards that have wiring printed on them.

In 1964, the IBM System 360 was one of the first computers to use integrated circuits and was so popular with businesses that IBM had difficulty keeping up with the demand. Computers had come down in size and price to such a point that smaller organizations such as universities and hospitals could now afford them.

Summary of third Generation computer

1. ICs were used.
2. Small Scale Integration and Medium Scale Integration technology were implemented in CPU, I/O processors etc.
3. Smaller & better performance
4. Comparatively lesser cost.
5. Faster processors.
6. In the beginning magnetic core memories were used. Later they were replaced by semiconductor memories (RAM & ROM)
7. Introduced microprogramming.
8. Microprogramming, parallel processing (pipelining, multiprocessor system etc), multiprogramming, multi-user system (time shared system) etc were introduced.
9. Operating system software were introduced (efficient sharing of a computer system by several user programs)
10. Cache and virtual memories were introduced (Cache memory makes the main memory appear faster than it really is. Virtual memory makes it appear larger).
11. High level languages were standardized by ANSI eg. ANSI FORTRAN, ANSI COBOL etc.
12. Database management, multi-user application, online systems like closed loop process control, airline reservation, interactive query systems, automatic industrial control etc emerged during this period.

5.2.6 Fourth Generation of Computers:

In 1970, Marcian Hoff, an engineer at Intel Corporation, invented the microprocessor, an entire CPU on a single chip. The replacement of several larger components by one microprocessor made possible the fourth generation of computers.

The small microprocessor made it possible to build a computer called a microcomputer, which was small enough to fit on a desktop. The first of these was the Altair built in 1975. In 1976, Stephen Wozniak and Steven Jobs designed and built the first Apple computer. The Apple Macintosh set new standards for ease of computer use with its graphical user interface. In 1981, IBM introduced the IBM-PC. The computer was an instant success because of the availability of spreadsheet, account-

ing, and word processor software. Desktop computers are referred to as either PCs or Macs.

Advances in technology made personal computers inexpensive and therefore available to many people. Because of these advances almost anyone could own a machine that had more computing power and was faster and more reliable than either the ENIAC or UNIVAC. As a comparison, if the cost of a sports car had dropped as quickly as that of a computer, a new Porsche would now cost about one dollar.

Summary of fourth Generation computer

1. Microprocessors were introduced as CPU-Complete processors and large section of main memory could be implemented in a single chip.
2. Tens of thousands of transistors can be placed in a single chip (VLSI design implemented)
3. CRT screen, laser& ink jet printers, scanners etc were developed.
4. Semiconductor memory chips were used as the main memory.
5. Secondary memory was composed of hard disks - Floppy disks & magnetic tapes were used for backup memory.
6. Parallelism, pipelining cache memory and virtual memory were applied in a better way.
7. LAN and WANS were developed (where desktop work stations interconnected).
8. Introduced Graphical User Interface.
9. Less power consumption.
10. High performance, lower cost and very compact.
11. Much increase in the speed of operation.

5.3 Brief overview of a Computer

Your PC (Personal Computer) is a system, consisting of many components. Some of those components, like Windows XP, and all your other programs, are software. The stuff you can actually see and touch, and would likely break if you threw it out a fifth-story window, is hardware.

Not everybody has exactly the same hardware. But those of you who have a desktop system, like the example shown in Figure 5.9, probably have most of the components shown in that same figure. Those of you with notebook computers probably have most of the same components. Only in your case the components are all integrated into a single book-sized portable unit. The system unit is the actual computer; everything else is called a peripheral device. Your computer's system unit probably has at least one floppy disk drive, and one CD or DVD drive, into which you can insert floppy disks and CDs. There's another disk drive, called the hard disk inside the system unit, as shown in Figure 5.10. You can't remove that disk, or even see it. But it's there. And everything that's currently "in your computer" is actually stored on that hard disk. (We know this because there is no place else inside the computer where you can store information!).

The floppy drive and CD drive are often referred to as drives with removable media or removable drives for short, because you can remove whatever disk is currently in the drive, and replace it with another. Your computer's hard disk can store as much information as tens of thousands of floppy disks, so don't worry about running out of space on your hard disk any time soon. As a rule, you want to store everything you create or download on your hard disk. Use the floppy disks and CDs to send copies of files through the mail, or to make backup copies of important items.



Figure 5.9: View of a Personal computer

5.3.1 Different component of a computer

Computers are made up of two parts, the hardware and the software. Hardware is The physical equipment required to run the software. Software is The computerised instructions that operate a computer, manipulate the data and execute particular functions or tasks.

Definition 5.3 Computer hardware is any physical device, something that you are able to touch and software is a collection of instructions and code installed into the computer and cannot be touched. For example, the computer monitor you are using to read this text on and the mouse you are using to navigate the web page is computer hardware. The Internet browser that allowed you to visit the web-page and the operating system that the browser is running on is software.

All computers require the following hardware components:

- 1) **CPU (Central Processor Unit):** The chip or chips at the heart of a computer that enable it to process data. Also known as a processor. It does the 'work', fetches, stores and manipulates values that are stored in the computer's memory. Processors come in all different 'shapes and sizes' – there are many different types of architectures which are suited to a variety of different tasks.
- 2) **Main memory (RAM-Random Access Memory):** An area within a computer system that holds data waiting to be processed. It is used to store values during execution of a program. It can be written to and read from at any time.
- 3) **Disc drive (hard or floppy):** 'Permanently' stores files (programs and data). Hard discs are generally located inside the machine and come in a variety of different sizes and speeds. They do not, in fact, store files permanently – they often go wrong and so must undergo a back-up at regular intervals. The floppy disc drive allows a user to make his or her own back up of important files and data. It is very important to keep back-ups. Do not be caught out – you may well lose all your work!
- 4) **VDU (Visual Display Unit):** Visually outputs data. There are numerous types of VDU differing in the resolution (dots per inch) and the number of colours that can be represented.
- 5) **Printer:** Allows a hard copy to be made. Again, there are many different types of printers available, for example, line printers, dot-matrix printers, bubble jet printers and laser printers. These also differ in their resolution and colour palette.

The central processing unit (CPU) is the heart of the computer. It carries out all of the instructions given in a program, such as a word processing or spreadsheet program. The CPU consists of one



Figure 5.10: View of RAM,Hard drive,Floppy disk

or more chips (another name for “integrated circuits”).

Definition 5.4 A small piece of semi-conducting material (such as silicon) about 1 centimetre ($\frac{1}{4}$ inch) square on which an integrated circuit is embedded. An integrated circuit is a number of electronic components joined together to form a path for electricity. Central processing unit chips contain the circuits representing the CPU.

CPU's are not all equal. Some process data faster than others. A computer contains a system clock that emits pulses to establish the timing of all systems operations. The system clock operates at a speed quite different from a clock that keeps track of the time of the day. The system clock determines the speed at which the computer can execute an instruction, and therefore limits the number of instructions the computer can complete within a specific amount of time. The time to complete an instruction execution cycle is measured in megahertz (MHz) or millions of cycles per second. Although some instructions require multiple cycles to complete, the processor speed should be thought of in terms of the number of instructions the processor can execute in one second.

5.4 Block diagram of a digital computer

In the diagram, the arrows indicate the direction of data flow. Some data flows in one direction only. In some cases it flows in both directions. At the heart of the computer is the microprocessor. This contains several REGISTERS to store data and an ARITHMETIC LOGIC UNIT (ALU) which manipulates data. It acts as the central processing unit (CPU) of the computer, carrying out a sequence of instructions, called a program. The program may be stored in memory, as software, or

written into the memory from tape or disk.

5.4.1 Different types of storage Unit:

The storage unit of the computer holds data and instructions that are entered through the input unit, before they are processed. It preserves the intermediate and final results before these are sent to the output devices. It also saves the data for the later use.

Types of Storage Devices:

1. **Primary Storage:**

- a. Stores and provides very fast.
- b. This memory is generally used to hold the program being currently executed in the computer, the data being received from the input unit, the intermediate and final results of the program.
- c. The primary memory is temporary in nature. The data is lost, when the computer is switched off.
- d. In order to store the data permanently, the data has to be transferred to the secondary memory. The cost of the primary storage is more compared to the secondary storage.

1. **Secondary Storage:**

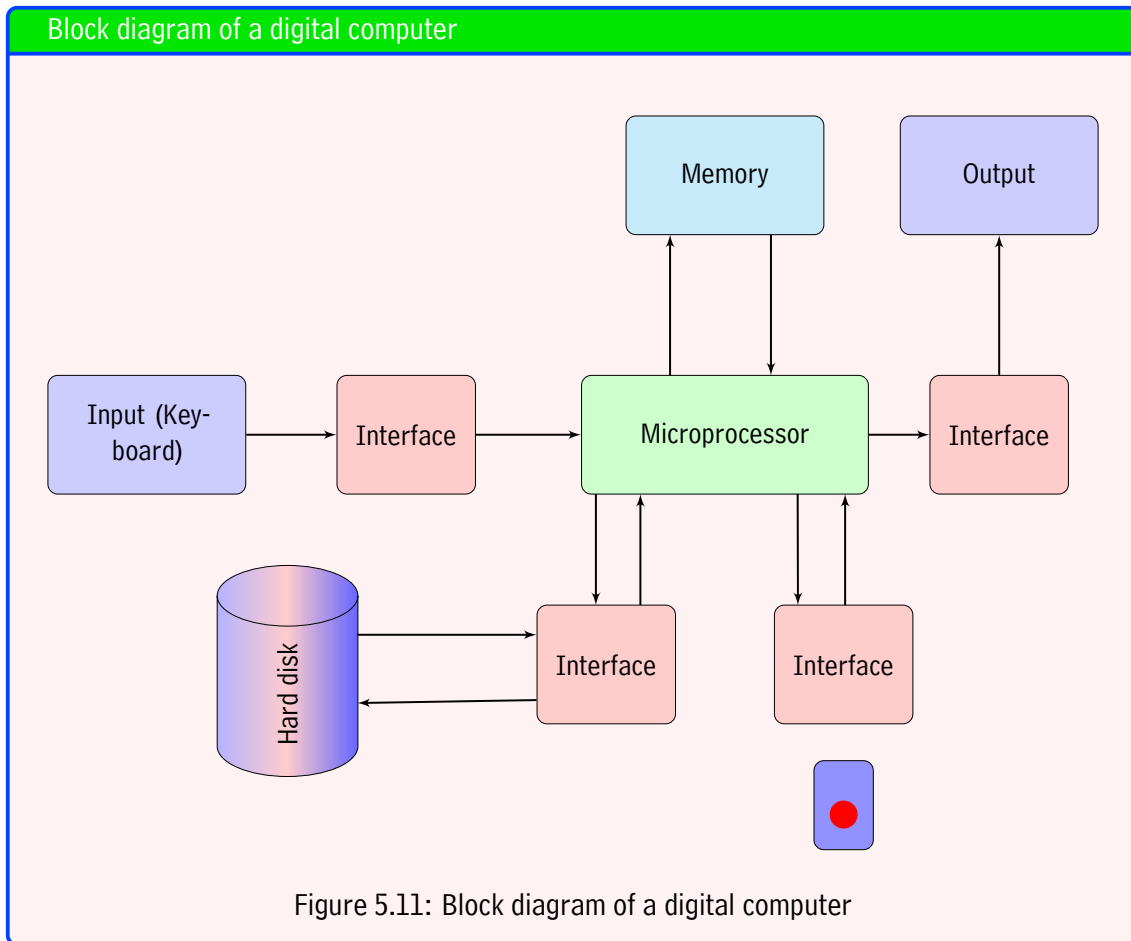
- a. It stores several programs, documents, data bases etc.
- b. The programs that run on the computer are first transferred to the primary memory before it is actually run.
- c. Whenever the results are saved, again they get stored in the secondary memory.
- d. The secondary memory is slower and cheaper than the primary memory. Some of the commonly used secondary memory devices are Hard disk, CD, etc.

5.4.1.1 Memory Size:

All digital computers use the binary system, i.e. 0s and 1s. Each character or a number is represented by an 8 bit code. The set of 8 bits is called a byte. A Character occupies 1 byte space. A numeric occupies 2 byte space. Byte is the space occupied in the memory. The size of the primary storage is specified in KB (Kilobytes) or MB (Megabyte). One KB is equal to 1024 bytes and one MB is equal to 1000KB. The size of the primary storage in a typical PC usually starts at 16MB. PCs having 32 MB, 48MB, 128 MB, 256MB memory are quite common.

5.4.2 Interface:

The computer needs to communicate with the outside world. It does this via interfaces which are usually a plug or socket of some type. The computer is a digital device. It may need to communicate with an analogue device such as a loudspeaker or variable speed control. To do this it uses digital to analogue and analogue to digital converters.



5.4.3 Central Processing Unit:

The control unit and ALU of the computer are together known as the Central Processing Unit (CPU). The CPU is like brain performs the following functions:

1. It performs all calculations.
2. It takes all decisions.
3. It controls all units of the computer.

A PC may have CPU-IC such as Intel 8088, 80286, 80386, 80486, Celeron, Pentium, Pentium Pro, Pentium II, Pentium III, Pentium IV, Dual Core, and AMD etc.

5.4.3.1 Control Unit:

It controls all other units in the computer. The control unit instructs the input unit, where to store the data after receiving it from the user. It controls the flow of data and instructions from the storage unit to ALU. It also controls the flow of results from the ALU to the storage unit. The control unit is generally referred as the central nervous system of the computer that control and synchronizes its working.

5.4.3.2 Arithmetic Logical Unit:

All calculations are performed in the Arithmetic Logic Unit (ALU) of the computer. It also does comparison and takes decision. The ALU can perform basic operations such as addition, subtraction, multiplication, division, etc and does logic operations viz $>$, $<$, $=$ etc.

Whenever calculations are required, the control unit transfers the data from storage unit to ALU once the computations are done, the results are transferred to the storage unit by the control unit and then it is send to the output unit for displaying results.

5.4.4 Input & Output Devices

Before a computer can process your data, you need some method to input the data into the machine. The device you use will depend on what form this data takes (be it text, sound, artwork, etc.).

Similarly, after the computer has processed your data, you often need to produce output of the results. This output could be a display on the computer screen, hardcopy on printed pages, or even the audio playback of music you composed on the computer.

The terms “input” and “output” are used both as verbs to describe the process of entering or displaying the data, and as nouns referring to the data itself entered into or displayed by the computer.

Below we discuss the variety of peripheral devices used for computer input and output.

5.4.4.1 Input Devices

the devices that allow data and instructions to enter a computer (such as a keyboard, mouse, scanner). Input is the Any resource required for the functioning of a process, in the course of which it will be transformed into one or more outputs.

Definition 5.5 Computers need to receive data and instruction in order to solve any problem. Therefore, we need to input the data and instructions into the computers. The input unit consists of one or more input devices. Keyboard is the one of the most commonly used input device. Other commonly used input devices are the mouse, floppy disk drive, magnetic tape, etc. All the input devices perform the following functions.

1. Accept the data and instructions from the outside world.
2. Convert it to a form that the computer can understand.
3. Supply the converted data to the computer system for further processing.

i) **Keyboard:** The keyboard is a means of interacting with your computer. You really only need to use the keyboard when you’re typing text. Most of the keys on the keyboard are laid out like the keys on a typewriter. But there are some special keys like Esc (Escape), Ctrl (Control), and Alt (Alternate). There are also some keys across the top of the keyboard labeled F1, F2, F3, and so forth. Those are called the function keys, and the exact role they play depends on which program you happen to be using at the moment.

Most keyboards also have a numeric keypad with the keys laid out like the keys on a typical adding machine. If you’re accustomed to using an adding machine, you might want to use the numeric keypad, rather than the numbers across the top of the keyboard, to type numbers. It doesn’t really matter which keys you use. The numeric keypad is just there as a convenience to people who are accustomed to adding machines.

Most keyboards also contain a set of navigation keys. You can use the navigation keys to move around around through text on the screen. The navigation keys won’t move the mouse pointer. Only the mouse moves the mouse pointer.

On smaller keyboards where space is limited, such as on a notebook computer, the navigation keys and numeric keypad might be one in the same. There will be a Num Lock key on the keypad. When the Num Lock key is “on”, the numeric keypad keys type numbers. When the Num Lock key is “off”, the navigation keys come into play. The Num Lock key acts as a toggle.

Which is to say, when you tap it, it switches to the opposite state. For example, if Num Lock is on, tapping that key turns it off. If Num Lock is off, tapping that key turns Num Lock on.

- ii) **The Mouse:** Obviously you know how to use your mouse, since you must have used it to get here. But let's take a look at the facts and buzzwords anyway. Your mouse probably has at least two buttons on it. The button on the left is called the primary mouse button, the button on the right is called the secondary mouse button or just the right mouse button. I'll just refer to them as the left and right mouse buttons.

The mouse pointing device sits on your work surface and is moved with your hand. In older mice, a ball in the bottom of the mouse rolls on the surface as you move the mouse, and internal rollers sense the ball movement and transmit the information to the computer via the cord of the mouse.

The newer optical mouse does not use a rolling ball, but instead uses a light and a small optical sensor to detect the motion of the mouse by tracking a tiny image of the desk surface. Optical mice avoid the problem of a dirty mouse ball, which causes regular mice to roll unsmoothly if the mouse ball and internal rollers are not cleaned frequently.

A cordless or wireless mouse communicates with the computer via radio waves (often using Bluetooth hardware and protocol) so that a cord is not needed (but such mice need internal batteries).

A mouse also includes one or more buttons (and possibly a scroll wheel) to allow users to interact with the GUI. The traditional PC mouse has two buttons, while the traditional Macintosh mouse has one button. On either type of computer you can also use mice with three or more buttons and a small scroll wheel (which can also usually be clicked like a button). The buzzwords that describe how you use the mouse are as follows:

Point: To point to an item means to move the mouse pointer so that it's touching the item.

Click: Point to the item, then tap (press and release) the left mouse button.

Double-click: Point to the item, and tap the left mouse button twice in rapid succession - click-click as fast as you can.

Right-click: Point to the item, then tap the mouse button on the right.

Drag: Point to an item, then hold down the left mouse button as you move the mouse. To drop the item, release the left mouse button.

Right-drag: Point to an item, then hold down the right mouse button as you move the mouse. To drop the item, release the right mouse button.

- iii) **Touch pad:** Most laptop computers today have a touch pad pointing device. You move the on-screen cursor by sliding your finger along the surface of the touch pad. The buttons are located below the pad, but most touch pads allow you to perform "mouse clicks" by tapping on the pad itself.

Touch pads have the advantage over mice that they take up much less room to use. They have the advantage over trackballs (which were used on early laptops) that there are no moving parts to get dirty and result in jumpy cursor control.

- iv) **Trackpoint:** The trackball is sort of like an upside-down mouse, with the ball located on top. You use your fingers to roll the trackball, and internal rollers (similar to what's inside a mouse) sense the motion which is transmitted to the computer. Trackballs have the advantage over mice in that the body of the trackball remains stationary on your desk, so you don't need as much room to use the trackball. Early laptop computers often used trackballs (before superior touch pads came along).

Trackballs have traditionally had the same problem as mice: dirty rollers can make their

cursor control jumpy and unsmooth. But there are modern optical trackballs that don't have this problem because their designs eliminate the rollers.

- v) **Joysticks:** Joysticks and other game controllers can also be connected to a computer as pointing devices. They are generally used for playing games, and not for controlling the on-screen cursor in productivity software.
- vi) **Light pen:** A light pen is a light-sensitive pointing device commonly used to select or otherwise modify text or data on a screen.
The term light pen may also refer to a pointing device utilizing a light that is commonly used during a presentation
- vii) **Trackball:** A trackball is a pointing device consisting of a ball held by a socket containing sensors to detect a rotation of the ball about two axes-like an upside-down mouse with an exposed protruding ball. The user rolls the ball with the thumb, fingers, or the palm of the hand to move a pointer. Compared with a mouse, a trackball has no limits on effective travel; at times, a mouse can reach an edge of its working area while the operator still wishes to move the screen pointer farther. With a trackball, the operator just continues rolling. Some trackballs, such as Logitech's optical-pickoff types, have notably low friction, as well as being dense (glass), so they can be spun to make them coast.
- viii) **Touch screen:** Some computers, especially small hand-held PDAs, have touch sensitive display screens. The user can make choices and press button images on the screen. You often use a stylus, which you hold like a pen, to "write" on the surface of a small touch screen.
- ix) **Graphics tablet:** A graphics tablet consists of an electronic writing area and a special "pen" that works with it. Graphics tablets allows artists to create graphical images with motions and actions similar to using more traditional drawing tools. The pen of the graphics tablet is pressure sensitive, so pressing harder or softer can result in brush strokes of different width (in an appropriate graphics program).
- x) **Scanners:** A scanner is a device that images a printed page or graphic by digitizing it, producing an image made of tiny pixels of different brightness and color values which are represented numerically and sent to the computer. Scanners scan graphics, but they can also scan pages of text which are then run through OCR (Optical Character Recognition) software that identifies the individual letter shapes and creates a text file of the page's contents.
- xi) **Microphone:** A microphone can be attached to a computer to record sound (usually through a sound card input or circuitry built into the motherboard). The sound is digitized—turned into numbers that represent the original analog sound waves—and stored in the computer to later processing and playback.
- xii) **MIDI Devices:** MIDI (Musical Instrument Digital Interface) is a system designed to transmit information between electronic musical instruments. A MIDI musical keyboard can be attached to a computer and allow a performer to play music that is captured by the computer system as a sequence of notes with the associated timing (instead of recording digitized sound waves).

5.4.4.2 Output Devices:

An output device receives information from the computer and translates it from machine language to a form that humans can read or so that another machine can read the information. An output device is any piece of computer hardware equipment used to communicate the results of data processing carried out by an information processing system (such as a computer) to the outside world.

Electronic output devices can be mechanical, audio, or visual. Mechanical outputs include mo-

tors, solenoids, and other electromagnetic devices. Audio outputs include buzzers, loudspeakers, piezo transducers, and ultrasonic transmitters. Mechanical and audio outputs tend to have a higher power demand than other output devices. Visual outputs include lamps, LEDs (light-emitting diodes), and infrared transmitters.

Definition 5.6 The output unit of a computer provides the information and results of a computation to outside world. Printers, Visual Display Unit (VDU) are the commonly used output devices. Other commonly used output devices are floppy disk drive, hard disk drive, and magnetic tape drive.

1. **CRT Monitor:** The traditional output device of a personal computer has been the CRT (Cathode Ray Tube) monitor. Just like a television set (an older one, anyway) the CRT monitor contains a large cathode ray tube that uses an electron beam of varying strength to “paint” a picture onto the color phosphorescent dots on the inside of the screen. CRT monitors are heavy and use more electrical power than flat panel displays, but they are preferred by some graphic artists for their accurate color rendition, and preferred by some gamers for faster response to rapidly changing graphics.

Monitor screen size is measured diagonally across the screen, in inches. Not all of the screen area may be usable for image display, so the viewable area is also specified. The resolution of the monitor is the maximum number of pixels it can display horizontally and vertically (such as 800×600 , or 1024×768 , or 1600×1200). Most monitors can display several resolutions below its maximum setting. Pixels (short for picture elements) are the small dots that make of the image displayed on the screen. The spacing of the screen’s tiny phosphor dots is called the dot pitch (dp), typically .28 or .26 (measured in millimeters). A screen with a smaller dot pitch produces sharper images.

Your computer must produce a video signal that a monitor can display. This may be handled by circuitry on the motherboard, but is usually handled by a video card in one of the computer’s expansion slots; often the slot is a special one dedicated to video use, such as an AGP slot (Accelerated Graphics Port). Video cards are also called video display adapters, and graphics cards. Many video cards contain separate processors and dedicated video memory for generating complex graphics quickly without burdening the CPU. These accelerated graphics cards are loved by gamers.

2. **Flat Panel Monitor:** A flat panel display usually uses an LCD (Liquid Crystal Display) screen to display output from the computer. The LCD consists of several thin layers that polarize the light passing through them. The polarization of one layer, containing long thin molecules called liquid crystals, can be controlled electronically at each pixel, blocking varying amounts of the light to make a pixel lighter or darker. Other types of flat panel technology exist (such as plasma displays) but LCDs are most commonly used in computers, especially laptops. Older LCDs had slow response times and low contrast, but active matrix LCD screens have a transparent thin film transistor (TFT) controlling each pixel, so response, contrast, and viewing angle are much improved.

Flat panel displays are much lighter and less bulky than CRT monitors, and they consume much less power. They have been more expensive than CRTs in the past, but the price gap is narrowing. You will see many more flat panels in the future.

As with CRTs, the display size of a flat panel is expressed in inches, and the resolution is the number of pixels horizontally and vertically on the display.

3. **Ink Jet Printer:** For hard copy (printed) output, you need some kind of printer attached to your computer (or available over a network). The most common type of printer for home

systems is the color ink jet printer. These printers form the image on the page by spraying tiny droplets of ink from the print head. The printer needs several colors of ink (cyan, yellow, magenta, and black) to make color images. Some photo-quality ink jet printers have more colors of ink.

Ink jet printers are inexpensive, but the cost of consumables (ink cartridges and special paper) make them costly to operate in the long run for many purposes.

4. **Laser Printer:** A laser printer produces good quality images by the same technology that photocopiers use. A drum coated with photosensitive material is charged, then an image is written onto it by a laser (or LEDs) which makes those areas lose the charge. The drum then rolls through toner (tiny plastic particles of pigment) that are attracted to the charged areas of the drum. The toner is then deposited onto the paper, and then fused into the paper with heat.

Most laser printers are monochrome (one color only, usually black), but more expensive laser printers with multiple color toner cartridges can produce color output.

Laser printers are faster than ink jet printers. Their speed is rated in pages per minute (ppm). Laser printers are more expensive than ink jets, but they are cheaper to run in the long term if you just need good quality black & white pages.

5. **Other Printers:** Multi-function printers are available that not only operate as a computer printer, but also include the hardware needed to be a scanner, photocopier, and FAX machine as well.
 6. **Dot matrix printer:** It use small electromagnetically activated pins in the print head, and an inked ribbon, to produce images by impact. These printers are slow and noisy, and are not commonly used for personal computers anymore (but they can print multi-layer forms, which neither ink jet or laser printers can).
 7. **Sound Output:** Computers also produce sound output, ranging from simple beeps alerting the user, to impressive game sound effects, to concert quality music. The circuitry to produce sound may be included on the motherboard, but high quality audio output from a PC usually requires a sound card in one of the expansion slots, connected to a set of good quality external speakers or headphones.
- Multimedia is a term describing computer output that includes sound, text, graphics, movies, and animation. A sound card is an example of a multimedia output device (as is a monitor that can display graphics).

5.5 How does the computer work?

Software is the computerized instructions that operate the computer, execute particular functions or tasks, and manipulate the data. For software (the instructions) to perform various functions, it must be programmed. That is, the instructions need to be written in a programming language that the computer can understand. Without a program, a computer is useless.

Definition 5.7 Programming language: An artificial set of rules, vocabulary and syntax used to instruct the computer to execute certain tasks. A programming language is a computer language, programmers use to develop applications, scripts, or other set of instructions for a computer to execute.

The language the computer actually understands is called machine language, which comprises numbers only. This language is used by the computer to understand the programming language and

translate the terms into executable instructions. Lying between programming languages and machine languages are assembly languages. Assembly languages have the same structure and set of commands as machine languages but they enable a program to use names instead of numbers. There are two kinds of software, systems software and applications software. Systems software includes the operating system and all the utilities that enable the computer to function. The most important program that runs on a computer is the operating system. Every general-purpose computer must have an operating system in order to run other programs. This includes controlling functions such as the coordination of the hardware and applications software, allocating storage facilities, controlling the input and output devices and managing time sharing for linked or networked computers.

Definition 5.8 Computer program: A computer is nothing but a very dumb machine that has the ability to perform mathematical operations very rapidly and very accurately, but it can do nothing without the aid of a program written by a human being. Moreover, if the human being writes a program that turns good data into garbage, the computer will very obediently, and very rapidly turn good data into garbage. It is possible to write a large program with one small error that will do just that. In some cases the error will be obvious, but if the error is subtle, the answers may appear to be right, and the error will go unnoticed. It is up to you, the human programmer, to write a correct program to tell the computer what to do. You can think of the computer as your very obedient slave ready to do your every whim. It is up to you to tell your slave what you want it to do.

A computer program is a "recipe" which the computer will use on the input data to derive the desired output data. It is similar to the recipe for baking a cake. The input data is comparable to the ingredients, including the heat supplied by the oven. The program is comparable to the recipe instructions to mix, stir, wait, heat, cool, and all other possible operations on the ingredients. The output of the computer program can be compared to the final cake sitting on the counter ready to be cut and served. A computer then is composed of two parts, the data upon which the program operates, and the data. The data and program are inseparable as implied by the last sentence.

5.5.1 Software

Computers seem to perform amazing feats as they process information and display output almost instantly; but behind the scenes, they are really very simpleminded devices. All they do is plod along executing long strings of instructions that were previously written by a clever human programmer. The thing that makes a computer's performances seem so amazing is that it executes these instructions very, very, very quickly, accurately, and tirelessly. Computers aren't smart; they are just FAST.

But computers can't do ANYTHING without step-by-step instructions written out for them. These lists of instructions are called programs. Programs (and the associated data) are known as software. Software needs to be installed onto a computer before it can be used. Software is often sold in sets of several programs and associated data called a software package, and typically comes on a CD-ROM or may be downloaded from the Internet. The Microsoft Office Suite is such a collection of programs and data that allows users to manipulate words, numbers, and data.

There are two major categories of software: System software and Application software.

5.5.1.1 System Software

System software controls a computer's operations and manages a computer's resources. System software includes the operating system, utilities, and computer programming tools.

The operating system (OS) controls the allocation of hardware resources such as memory space and CPU processing time, and handles the basic input and output (I/O) for data flowing from and to storage devices (such as hard disks) and peripherals (such as your keyboard). The operating system allows application software to access system resources without the applications having to know the details about the system hardware. The operating system often allocates resources and processing time between several programs which are running at once, which is called multitasking. Multitasking allows you to perform multiple tasks at the same time, such copying a chart from an open Excel document and pasting it into a report you have open in Word, all while your web browser is downloading a large file from the Internet in the background. It is the OS that plays traffic cop in this situation, deciding which program gets time on the CPU when, and handles the flow of data.

System software also includes the software needed to access a peripheral device connected to the computer. Such software is called a device driver, and it controls I/O to the peripheral. The device drivers may come already installed in the OS, or you may have to install or update a driver when you add a new peripheral device.

System software may also include security software, such as Virus checkers and firewalls. A virus checker searches files for potentially harmful programs such as viruses, worms, or trojan horses that are written by malicious programmers. Viruses and similar programs can perform disastrous activities on your computer system, such as erasing your hard disk. To be safe, you should scan all downloaded files and messages on your PC (anti-virus software can automatically do this) and never run any e-mail attachments if you don't know what they are. (Note: There are vastly fewer viruses that affect Macintosh computers than affect PCs.) A firewall, or similar program, protects your computer from unauthorized access over a network or telecom connection.

Utilities are programs that perform a very specific task, usually related to managing system resources such as disk drives, printers, etc. Unlike application software, utilities tend to be smaller in size and perform activities related to the computer system (scanning for viruses, manipulating file settings, scanning for disk errors, etc.). Some utilities are memory-resident programs that are loaded into RAM and operate in the background.

System software also includes the tools used to write other programs. These include compilers, assemblers, and debuggers for various computer programming languages. A programming language allows a person to write computer instructions in a language that is easier for a human to understand, but which is then converted into the low level numerical instruction codes that a computer processor unit can execute. Some programming languages include C, C++, Java, FORTRAN, COBOL, PASCAL, BASIC, Visual Basic (and such scripting languages as JavaScript and Perl)

5.5.1.2 Application Software

Application software runs on top of the operating system and allows the user to perform a specific task, such as word processing a letter, calculating a payroll in a spreadsheet, manage a database of information, reading e-mail messages, or manipulating digital photographs. Most applications allow the production and editing of documents (which are the data files created by the application programs). The document files (such as a report created in Word, or a PowerPoint presentation, or a budget spreadsheet) can then be printed, displayed on a screen, or transmitted to other locations.

Applications (and other programs) are stored on your PC as executable files (they contain program steps that the computer can execute); documents are stored as data files. **Applications software** includes programs that users access to carry out work. They include applications for the following functions.

1. Word processing is the most common applications software. The great advantage of word

processing over using a typewriter is that you can make changes without retyping the entire document. Word processors make it easy to manipulate and format documents.

2. Spreadsheets are computer programs that let people electronically create and manipulate spreadsheets (tables of values arranged in rows and columns with predefined relationships to each other). Spreadsheets are used for mathematical calculations such as accounts, budgets, statistics and so on.
3. Database management applications are computer programs that let people create and manipulate data in a database. A database is a collection of related information that can be manipulated and used to sort information, conduct statistical analyses or generate reports.
4. Presentation packages and graphics are computer programs that enable users to create highly stylised images for slide presentations and reports. They can also be used to produce various types of charts and graphs. Many software applications include graphics components including: paint programs, desktop publishing applications and so on.
5. Communications applications typically include software to enable people to send faxes and emails and dial into other computers.

5.6 Operating system

This section provides an overview of Operating System principles. We begin with Objectives, Functions and Services of Operating System, which serves to define the requirements that an operating system is intended to meet. We will also see how the resources are effectively managed by operating system. Then we will focus on how an operating system evolved from Simple batch system to Multiprogrammed, and Timesharing systems.

5.6.1 Introduction to Operating System

An operating system is a program that controls the execution of application programs and acts as an interface between the user of a computer and the computer hardware. In other words “The software that controls the hardware”. Some examples of operating systems are UNIX, Mach, MS-DOS, MS-Windows, Windows/NT, OS/2, MacOS, VMS, MVS, and VM.

Controlling the computer involves software at several levels. We will differentiate kernel services, library services, and application-level services, all of which are part of the operating system. Processes run Applications, which are linked together with libraries perform standard services. The kernel supports the processes by providing a path to the peripheral devices. The kernel responds to service calls from the processes and interrupts from the devices. The core of the operating system is the kernel, a control program that functions in privileged state (an execution context that allows all hardware instructions to be executed), reacting to interrupts from external devices and to service requests and traps from processes. Generally, the kernel is a permanent resident of the computer. It creates and terminates processes and responds to their request for service. Operating Systems are resource managers. The main resource is computer hardware in the form of processors, storage, input/output devices, communication devices, and data.

Definition 5.9 Operating system:

A program that is executed by the processor that frequently relinquishes control and must depend on the processor to regain control.

2. A program that mediates between application programs and the hardware
3. A set of procedures that enable a group of people to use a computer system.

4. A program that controls the execution of application programs
5. An interface between applications and hardware

5.6.1.1 Functions of an operating system

The basic functions of an operating system are:

1. Booting the computer.
2. Performs basic computer tasks eg managing the various peripheral devices eg mouse, keyboard.
3. Provides a user interface, e.g. command line, graphical user interface (GUI) Handles system resources such as computer's memory and sharing of the central processing unit (CPU) time by various applications or peripheral devices.
4. Provides file management which refers to the way that the operating system manipulates, stores, retrieves and saves data.

Booting the computer



The process of starting or restarting the computer is known as booting. A cold boot is when you turn on a computer that has been turned off completely. A warm boot is the process of using the operating system to restart the computer.

Performs basic computer tasks

The operating system performs basic computer tasks, such as managing the various peripheral devices such as the mouse, keyboard and printers. For example, most operating systems now are plug and play which means a device such as a printer will automatically be detected and configured without any user intervention.

Provides a user interface

A user interacts with software through the user interface. The two main types of user interfaces are: command line and a graphical user interface (GUI). With a command line interface, the user interacts with the operating system by typing commands to perform specific tasks. An example of a command line interface is DOS (disk operating system). With a graphical user interface, the user interacts with the operating system by using a mouse to access windows, icons, and menus. An example of a graphical user interface is Windows Vista or Windows 7.

The operating system is responsible for providing a consistent application program interface (API) which is important as it allows a software developer to write an application on one computer and know that it will run on another computer of the same type even if the amount of memory or amount of storage is different on the two machines.

Handles system resources

The operating system also handles system resources such as the computer's memory and sharing of the central processing unit (CPU) time by various applications or peripheral devices. Programs and input methods are constantly competing for the attention of the CPU and demand memory, storage and input/output bandwidth. The operating system ensures that each application gets the necessary resources it needs in order to maximise the functionality of the overall system.

Provides file management

The operating system also handles the organisation and tracking of files and directories (folders) saved or retrieved from a computer disk. The file management system allows the user to perform such tasks as creating files and directories, renaming files, copying and moving files, and deleting files. The operating system keeps track of where files are located on the hard drive through the type of file system. The two main types of file system are File Allocation table (FAT) or New Technology File system (NTFS).

5.6.2 The History of Operating Systems

Operating systems have evolved through a number of distinct phases or generations, which corresponds roughly to the decades.

The 1940's - First Generations

The earliest electronic digital computers had no operating systems. Machines of the time were so primitive that programs were often entered one bit at a time on rows of mechanical switches (plug boards). Programming languages were unknown (not even assembly languages).

The 1950's - Second Generation

By the early 1950's, the routine had improved somewhat with the introduction of punch cards. The General Motors Research Laboratories implemented the first operating systems in early 1950's for their IBM 701. The system of the 50's generally ran one job at a time. These were called single-stream batch processing systems because programs and data were submitted in groups or batches.

The 1960's - Third Generation

The systems of the 1960's were also batch processing systems, but they were able to take better advantage of the computer's resources by running several jobs at once. So operating systems designers developed the concept of multiprogramming in which several jobs are in main memory at once; a processor is switched from job to job as needed to keep several jobs advancing while keeping the peripheral devices in use.

For example, on the system with no multiprogramming, when the current job paused to wait for other I/O operation to complete, the CPU simply sat idle until the I/O finished. The solution for this problem that evolved was to partition memory into several pieces, with a different job in each partition. While one job was waiting for I/O to complete, another job could be using the CPU.

Another major feature in third-generation operating system was the technique called SPOOLing (simultaneous peripheral operations on line). In spooling, a high-speed device like a disk interposed between a running program and a low-speed device involved with the program in input/output. Instead of writing directly to a printer, for example, outputs are written to the disk. Programs can run to completion faster, and other programs can be initiated sooner when the printer becomes available, the outputs may be printed.

Another feature present in this generation was time-sharing technique, a variant of multiprogramming technique, in which each user has an on-line (i.e., directly connected) terminal. Because the user is present and interacting with the computer, the computer system must respond quickly to user requests, otherwise user productivity could suffer. Timesharing systems were developed to multiprogram large number of simultaneous interactive users.

Fourth Generation

With the development of LSI (Large Scale Integration) circuits, chips, operating system entered in the system entered in the personal computer and the workstation age. Microprocessor technology evolved to the point that it became possible to build desktop computers as powerful as the mainframes of the 1970s. Two operating systems have dominated the personal computer scene: MS-DOS, written by Microsoft, Inc. for the IBM PC and other machines using the Intel 8088 CPU and its successors, and UNIX, which is dominant on the large personal computers using the Motorola 6899 CPU family.

5.7 Some Basic Terminology

It is necessary to cover some terminology. Hopefully, much of it will be familiar – you will hear many of the terms used throughout the course

- **Bit** – is the smallest piece of information used by the computer. Derived from "binary digit". In computer language, is short for Binary Digit. Bits have value of 1 or 0, (or on or off, or, true or false).
- 8 Bits make up 1 **Byte**.
1024 Bytes make up 1 KByte (1 KiloByte or 1K), (Because $2^{10} = 1024$).
1024 KBytes make up 1 MByte (1 MegaByte or 1M).
1024 MBytes make up 1 GByte (1 GigaByte or 1G).
- All machines have a wordsize – a fundamental unit of storage, for example, 8-bits, 16-bits, etc. The size of a word (in Bytes) differs between machines. A Pentium based machine is 32-bit.
- parallel processing occurs when two or more CPUs work on solution of the same problem at the same time
- **Access time** – The performance of a hard drive or other storage device – how long it takes to locate a file.
- **Active program or window** – The application or window at the front (foreground) on the monitor.
- **Alert box** – a message that appears on screen, usually to tell you something went wrong.
- **Application** – a program in which you do your work.
- **ASCII** (pronounced ask-key) – American Standard Code for Information Interchange. a commonly used data format for exchanging information between computers or programs.
- **Boot** – to start up a computer.
- **Bug** – A programming error that causes a program to behave in an unexpected way.
- **Bus** – An electronic pathway through which data is transmitted between components in a computer.
- **Card** – a printed circuit board that adds some feature to a computer.
- **CD-ROM** – An acronym for Compact Disc Read-Only Memory.
- **Clock Rate (MHz)** – The instruction processing speed of a computer measured in millions of cycles per second (i.e., 200 MHz).
- **Compiler** – a program the converts programming code into a form that can be used by a computer.
- **Compression** – a technique that reduces the size of a saved file by elimination or encoding redundancies (i.e., JPEG, MPEG, LZW, etc.)
- **Control panel** – a program that allows you to change settings in a program or change the

way a Mac looks and/or behaves.

- **CPU**— the Central Processing Unit. The processing chip that is the "brains" of a computer.
- **Crash**— a system malfunction in which the computer stops working and has to be restarted.
- **Cursor**— The pointer, usually arrow or cross shaped, which is controlled by the mouse.
- **Daisy chaining** — the act of stringing devices together in a series (such as SCSI).
- **Windows:**
 - i. The most widely used operating system for personal computers from Microsoft. (Software only. Other companies manufacture the hardware that runs the Windows Operating System.) Compare Macintosh. (Windows with a large "W".)
 - ii. The thing you see on screen that contains a directory listing or the contents of a document. (Window with a small "w".)
- **Trash:** Place where you put files and folders that you want to delete or get rid of.
- **System files:** Allows our computer to work.
- **Software:** Instructions that tell the computer what to do.
- **Shut down:** To quit all applications and turn off the computer
- **Scroll bar:** Allows you to move around through your document.
- **Save As :** Give the file a name and/or store the file in a certain place.
- **Save:** Tell the computer to create a file on disk that has the information you've put into the document (usually typing).
- **Right click:** To press the right button on the mouse. (This is Windows specific. On a Mac running System 8 or higher, you hold down the Control key and then click to get the same effect.)
- **Recycle Bin:** Place where you put files and folders that you may later want to delete or get rid of. Compare Trash.
- **Random Access Memory (RAM):** This stands for Random Access Memory. You can think of this as the "space" where you computer does its processing. The more space you have the more processes you can run at the same time. More RAM is always better than less. You can never have much RAM.
- **Pointer (Cursor):** The name of the arrow (or other shape) that tracks across the screen as you move the mouse (or other pointing device) around.
- **Operating System (OS):** System software that allows your computer to work.
- **Mouse:** Pointing device that allows you to tell the computer what to do.
- **MegaHertz (Mhz):** This stands for MegaHertz. A hertz is an electronics term. 1 hz = one cycle (or wavelength) per second. 1 megahertz = 1,000,000 cycles per second. In computer jargon, Mhz measures how *fast* your CPU chip runs. Although it's more important to know the chip than the speed, if you're comparing the same kind of CPU chip then a higher / faster CPU speed (measured in MHz) is better than a slower speed.
- **Macintosh:** The brand name of a family of personal computers (hardware) and an operating system (software) from Apple, introduced in 1984.
- **Keyboard:** This is the primary text input device. It also contains certain standard function keys, such as the Escape key, tab, and arrow keys, shift and control keys, and sometimes other manufacturer-customized keys.
- **Icons:** In a graphical user interface (GUI), a small, pictorial, on screen representation of an object, such as a document, program, folder or disk drive.
- **Folder (Directory, Sub-Directory):** Allows you to organize files and other folders.
- **Folder Icons:** Collections of documents and other folders.

- **Edit:** To make a change to existing data
- **Drag:** To move an object on screen in which its complete movement is visible from starting location to destination.
- **Double Click:** To press the mouse button twice in rapid succession without moving the mouse between clicks.
- **Documents:** Files you create and edit.
- **Disk Space:** This is the place where your files live. The greater the disk space the more files you can keep. More disk space is always better than less. You can never have much disk space.
- **Desktop:** An on-screen representation of a desktop such as used in the Macintosh and Windows operating systems.
- **Delete:** To remove an item of data from a file or to remove a file from the disk.
- **Creating A File:** Storing data as a file with an assigned file name that is unique within the directory it resides in.
- **Crash:** Your computer or application no longer works correctly and so you "lose" all the work you've done since the last time you saved.
- **Central Processor Unit (CPU) :** This term has two meanings
 - i. Central Processor Unit—the main chip on the computer that makes everything go.
 - ii. The box that holds the guts of the computer.A faster CPU is always better than a slower one. You can never have too fast of a CPU.
- **Compute:** A general-purpose machine that processes data according to a set of instructions that are stored internally either temporarily or permanently.
- **WORM:** Acronym for Write Once-Read Many; an optical disk that can only be written to once (like a CD-ROM).
- **vaporware :** "software" advertised, and sometimes sold, that does not yet exist in a releasable form.
- **UPS:** acronym for "Uninterruptible Power Source", a constantly charging battery pack which powers the computer. A UPS should have enough charge to power your computer for several minutes in the event of a total power failure, giving you time to save your work and safely shut down.
- **upload:** To send a file from one computer to another through a network.
- **title bar** the horizontal bar at the top of a window which has the name of the file or folder it represents.
- **System folder:** an all-important folder that contains at least the System file.
- **System file:** a file in the System folder that allows your Mac to start and run.
- **start up disk:** the disk containing system software and is designated to be used to start the computer.
- **spreadsheet:** a program designed to look like an electronic ledger as in Excel.
- **server:** a central computer dedicated to sending and receiving data from other computers (on a network).
- **serial port:** a port that allows data to be transmitted in a series (one after the other), such as the printer and modem ports on a Mac.
- **SCSI:** acronym for Small Computer System Interface.
- **SCSI address:** a number between zero and seven that must be unique to each device in a SCSI chain. Fast and Wide SCSI devices will allow up to 15 SCSI Ids (hexidecimal); however, the length restriction (3 meters) is such that it is virtually impossible to link 15 devices together.

- **SCSI port:** a 25 pin connector on the back of a Mac (native SCSI port); used to connect SCSI devices to the CPU.
- **root directory:** the main hard drive window.
- **ROM:** acronym for Read Only Memory; memory that can only be read from and not written to.
- **RISC:** acronym for Reduced Instruction Set Computing; the smaller set of commands used by the PowerPC and Power Mac.
- **RAM:** Acronym for Random-Access Memory.
- **QuickTime:** the Apple system extension that gives one the ability to compress, edit and play animation, movies and sound on the Mac.
- **print spooler:** a program that stores documents to be printed on the hard drive, thereby freeing the memory up and allowing other functions to be performed while printing goes on in the background.
- **PCI:** acronym for Peripheral Component Interchange - the newer, faster bus architecture.
- **paste:** to insert text, or other material, from the clipboard or copy buffer.
- **partition:** a subdivision of a hard drives surface that is defined and used as a separate drive.
- **optical disk:** a high-capacity storage medium that is read by a laser light.
- **nanosecond:** one billionth of a second.
- **multi tasking:** running more than one application in memory at the same time.
- **memory:** the temporary holding area where data is stored while it is being used or changed; the amount of RAM a computer has installed.
- **megabyte:** 1024 kilobytes.
- **Measurements (summary)**
- **database:** an electronic list of information that can be sorted and/or searched.
- **defragment:** to concatenate fragments of data into contiguous blocks in memory or on a hard drive.
- **digitize:** to convert linear, or analog, data into digital data which can be used by the computer.
- **disk:** a spinning platter made of magnetic or optically etched material on which data can be stored.
- **disk drive:** the machinery that writes the data from a disk and/or writes data to a disk.
- **DOS:** acronym for Disk Operating System - used in IBM PCs.
- **DPI:** acronym for Dots Per Inch - a gauge of visual clarity on the printed page or on the computer screen.
- **download:** to transfer data from one computer to another. (If you are on the receiving end, you are downloading. If you are on the sending end, you are uploading).
- **driver:** a file on a computer which tells it how to communicate with an add-on piece of equipment (like a printer).
- **Ethernet:** a protocol for fast communication and file transfer across a network.
- **font :** a typeface that contains the characters of an alphabet or some other letterforms.
- **fragmentation:** The breaking up of a file into many separate locations in memory or on a disk.
- **freeze:** a system error which causes the cursor to lock in place.
- **hard drive:** a large capacity storage device made of multiple disks housed in a rigid case.
- **head crash:** a hard disk crash caused by the heads coming in contact with the spinning disk(s).
- **icon:** a graphic symbol for an application, file or folder.
- **Measurements:**
 - * 1024 bytes = one kilobyte

- * K= kilobyte
 - * Kb = kilobit
 - * MB= megabyte
 - * Mb= megabit
 - * MB/s = megabytes per second
 - * Mb/s= megabits per second
 - * bps= bits per second
- 155 Mb/s = 19.38 MB/s

5.8 Some shortcut command

Command name	Shortcut key
All Caps	CTRL + SHIFT + A
Annotation	ALT + CTRL + M
App Maximize	ALT + F10
App Restore	ALT + F5
Apply Heading1	ALT + CTRL + 1
Apply Heading2	ALT + CTRL + 2
Apply Heading3	ALT + CTRL + 3
Apply List Bullet	CTRL + SHIFT + L
Auto Format	ALT + CTRL + K
Auto Text	F3 or ALT + CTRL + V
Bold	CTRL + B or CTRL + SHIFT + B
Bookmark	CTRL + SHIFT + F5
Browse Next	CTRL + PAGE DOWN
Browse Previous	CTRL + PAGE UP
Browse Sel	ALT + CTRL + HOME
Cancel	ESC
Center Para	CTRL + E
Change Case	SHIFT + F3
Char Left	LEFT
Char Left Extend	SHIFT + LEFT
Char Right	RIGHT
Char Right Extend	SHIFT + RIGHT
Clear	DELETE
Close or Exit	ALT + F4
Close Pane	ALT + SHIFT + C
Column Break	CTRL + SHIFT + ENTER
Column Select	CTRL + SHIFT + F8
Copy	CTRL + C or CTRL + INSERT
Copy Forma	t CTRL + SHIFT + C
Copy Text	SHIFT + F2
Create Auto Tex	t ALT + F3
Customize Add Menu	ALT + CTRL + =
Customize Keyboard	ALT + CTRL + NUM +

Customize Remove Menu	ALT+CTRL+-
Cut	CTRL+X or SHIFT+DELETE
Date Field	ALT+SHIFT+D
Delete Back Word	CTRL+BACKSPACE
Delete Word	CTRL+DELETE
Dictionary	ALT+SHIFT+F7
Do Field	Click ALT+SHIFT+F9
Doc Close	CTRL+W or CTRL+F4
Doc Maximize	CTRL+F10
Doc Move	CTRL+F7
Doc Restore	CTRL+F5
Doc Size	CTRL+F8
Doc Split	ALT+CTRL+S
Double Underline	CTRL+SHIFT+D
End of Column	ALT+PAGE DOWN
End of Column	ALT+SHIFT+PAGE DOWN
End of Doc Extend	CTRL+SHIFT+END
End of Document	CTRL+END
End of Line	END
End of Line Extend	SHIFT+END
End of Row	ALT+END
End of Row	ALT+SHIFT+END
End of Window	ALT+CTRL+PAGE DOWN
End of Window Extend	ALT+CTRL+SHIFT+PAGE DOWN
Endnote Now	ALT+CTRL+D
Extend Selection	F8
Field Chars	CTRL+F9
Field Codes	ALT+F9
Find	CTRL+F
Font	CTRL+D or CTRL+SHIFT+F
Font Size Select	CTRL+SHIFT+P
Footnote Now	ALT+CTRL+F
Go Back	SHIFT+F5 or ALT+CTRL+Z
Go To	CTRL+G or F5
Grow Font	CTRL+SHIFT+.
Grow Font One Point	CTRL+]
Hanging Indent CTRL+T	
Header Footer Link	ALT+SHIFT+R
Help	F1
Hidden	CTRL+SHIFT+H
Hyperlink	CTRL+K
Indent	CTRL+M
Italic	CTRL+I or CTRL+SHIFT+I
Justify Para	CTRL+J
Left Para	CTRL+L
Line Down	DOWN

Line Down Extend	SHIFT + DOWN
Line Up	UP
Line Up Extend	SHIFT + UP
List Num Field	ALT + CTRL + L
Lock Fields	CTRL + 3 or CTRL + F11
Macro	ALT + F8
Mail Merge Check	ALT + SHIFT + K
Mail Merge Edit Data Source	ALT + SHIFT + E
Mail Merge to Doc	ALT + SHIFT + N
Mail Merge to Printer	ALT + SHIFT + M
Mark Citation	ALT + SHIFT + I
Mark Index Entry	ALT + SHIFT + X
Mark Table of Contents Entry	ALT + SHIFT + O
Menu Mode	F10
Merge Field	ALT + SHIFT + F
Microsoft Script Editor	ALT + SHIFT + F11
Microsoft System Info	ALT + CTRL + F1
Move Text	F2
New	CTRL + N
Next Cell	TAB
Next Field	F11 or ALT + F1
Next Misspelling	ALT + F7
Next Object	ALT + DOWN
Next Window	CTRL + F6 or ALT + F6
Normal	ALT + CTRL + N
Normal Style	CTRL + SHIFT + N or ALT + SHIFT + CLEAR (NUM 5)
Open	CTRL + O or CTRL + F12 or ALT + CTRL + F2
Open or Close Up Para	CTRL + O
Other Pane	F6 or SHIFT + F6
Outline	ALT + CTRL + O
Outline Collapse	ALT + SHIFT + - or ALT + SHIFT + NUM
Outline Demote	ALT + SHIFT + RIGHT
Outline Expand	ALT + SHIFT + =
Outline Expand	ALT + SHIFT + NUM +
Outline Move Down	ALT + SHIFT + DOWN
Outline Move Up	ALT + SHIFT + UP
Outline Promote	ALT + SHIFT + LEFT
Outline Show First Line	ALT + SHIFT + L
Overtyping	INSERT
Page	ALT + CTRL + P
Page Break	CTRL + ENTER
Page Down	PAGE DOWN
Page Down Extend	SHIFT + PAGE DOWN
Page Field	ALT + SHIFT + P

Page Up	PAGE UP
Page Up Extend	SHIFT + PAGE UP
Para Down	CTRL + DOWN
Para Down Extend	CTRL + SHIFT + DOWN
Para Up	CTRL + UP
Para Up Extend	CTRL + SHIFT + UP
Paste	CTRL + V or SHIFT + INSERT
Paste Format	CTRL + SHIFT + V
Prev Cell	SHIFT + TAB
Prev Field	SHIFT + F11 or ALT + SHIFT + F1
Prev Object	ALT + UP
Prev Window	CTRL + SHIFT + F6 or ALT + SHIFT + F6
Print	CTRL + P or CTRL + SHIFT + F12
Print Preview	CTRL + F2 or ALT + CTRL + I
Proofing	F7
Redo	ALT + SHIFT + BACKSPACE
Redo or Repeat	CTRL + Y or F4 or ALT + ENTER
Repeat Find	SHIFT + F4 or ALT + CTRL + Y
Replace	CTRL + H
Reset Char	CTRL + SPACE or CTRL + SHIFT + Z
Reset Para	CTRL + Q
Revision Marks Toggle	CTRL + SHIFT + E
Right Para	CTRL + R
Save	CTRL + S or SHIFT + F12 or ALT + SHIFT + F2
Save As	F12
Select All	CTRL + A or CTRL + CLEAR (NUM 5) or CTRL + NUM 5
Select Table	ALT + CLEAR (NUM 5)
Show All	CTRL + SHIFT + 8
Show All Headings	ALT + SHIFT + A
Show Heading1	ALT + SHIFT + 1
Show Heading2	ALT + SHIFT + 2
Show Heading3	ALT + SHIFT + 3
Show Heading4	ALT + SHIFT + 4
Show Heading5	ALT + SHIFT + 5
Show Heading6	ALT + SHIFT + 6
Show Heading7	ALT + SHIFT + 7
Show Heading8	ALT + SHIFT + 8
Show Heading9	ALT + SHIFT + 9
Shrink Font	CTRL + SHIFT + ,
Shrink Font One Point	CTRL + [
Small Caps	CTRL + SHIFT + K
Space Para1	CTRL + 1
Space Para15	CTRL + 5
Space Para2	CTRL + 2

Spike	CTRL + SHIFT + F3 or CTRL + F3
Start of Column	ALT + PAGE UP
Start of Column	ALT + SHIFT + PAGE UP
Start of Doc Extend	CTRL + SHIFT + HOME
Start of Document	CTRL + HOME
Start of Line	HOME
Start of Line Extend	SHIFT + HOME
Start of Row	ALT + HOME
Start of Row	ALT + SHIFT + HOME
Start of Window	ALT + CTRL + PAGE UP
Start of Window Extend	ALT + CTRL + SHIFT + PAGE UP
Style	CTRL + SHIFT + S
Subscript	CTRL + =
Superscript	CTRL + SHIFT + =
Symbol Font	CTRL + SHIFT + Q
Thesaurus	SHIFT + F7
Time Field	ALT + SHIFT + T
Toggle Field Display	SHIFT + F9
Toggle Master Subdocs	CTRL +
Tool	SHIFT + F1
Un Hang	CTRL + SHIFT + T
Un Indent	CTRL + SHIFT + M
Underline	CTRL + U or CTRL + SHIFT + U
Undo	CTRL + Z or ALT + BACKSPACE
Unlink Fields	CTRL + 6 or CTRL + SHIFT + F9
Unlock Fields	CTRL + 4 or CTRL + SHIFT + F11
Update Auto Format	ALT + CTRL + U
Update Fields	F9 or ALT + SHIFT + U
Update Source	CTRL + SHIFT + F7
VBCode	ALT + F11
Web Go Back	ALT + LEFT
Web Go Forward	ALT + RIGHT
Word Left	CTRL + LEFT
Word Left Extend	CTRL + SHIFT + LEFT
Word Right	CTRL + RIGHT
Word Right Extend	CTRL + SHIFT + RIGHT
Word Underline	CTRL + SHIFT + W

5.9 General definition and terminology

- **Monitor:** A device used to display information visually
- **Mouse:** A peripheral device used to point to items on a monitor
- **NIC:** Network interface card; a board inserted in a computer that provides a physical connection to a network
- **Printer:** A peripheral device that converts output from a computer into a printed image
- **Applications:** Complete, self-contained programs that perform a specific function (ie. spreadsheets, databases)

- **Bit:** A computer's most basic unit of information
- **Boot:** The process of loading or initializing an operating system on a computer; usually occurs as soon as a computer is turned on
- **Browser:** A program used to view World Wide Web pages, such as Netscape Navigator or Internet Explorer
- **Bug:** A part of a program that usually causes the computer to malfunction; often remedied in patches or updates to the program
- **Byte:** Small unit of data storage; 8 bits; usually holds one character
- **Click:** Occurs when a user presses a button on a mouse which in turn, generates a command to the computer
- **Database:** A large structured set of data; a file that contains numerous records that contain numerous fields
- **Diskette:** A small flexible disk used for storing computer data
- **Double Click:** Occurs when a user presses a button on the mouse twice in quick succession; this generates a command to the computer
- **Download:** Transferring data from another computer to your computer
- **Drag:** Occurs when a user points the mouse at an icon or folder, presses the button and without releasing the button, moves the icon or folder to another place on the computer where the button is released
- **Driver:** Software program that controls a piece of hardware or a peripheral
- **FAQ:** Frequently asked question; documents that answer questions common to a particular website or program
- **File:** Namable unit of data storage; an element of data storage; a single sequence of bytes
- **Folder:** A graphical representation used to organize a collection of computer files; as in the concept of a filing cabinet (computer's hard drive) with files (folders)
- **Freeware:** Software provided at no cost to the user
- **Gigabyte:** 1,073,741,824 bytes or 1,024 megabytes; generally abbreviated GB
- **GUI:** Graphical user interface; uses pictures and words to represent ideas, choices, functions, etc.
- **Icon:** A small picture used to represent a file or program in a GUI interface
- **Internet:** A network of computer networks encompassing the World Wide Web, FTP, telnet, and many other protocols
- **IP number:** Internet protocol; a computer's unique address or number on the Internet
- **Kilobyte:** 1,024 bytes; usually abbreviated KB
- **Megabyte:** 1,048,576 bytes or 1,024 kilobytes; enough storage to approximately equal a 600 page paperback book; generally abbreviated Mb
- **Memory:** Any device that holds computer data
- **Menu:** A list of operations available to the user of a program
- **Network:** A collection of computers that are connected
- **Peripheral:** Any of a number of hardware devices connected to a CPU
- **RAM:** Random access memory; the type of storage that changes; when the computer is turned off, the RAM memory is erased
- **ROM:** Read-only memory; the type of storage that is not changed even when the computer is turned off
- **Scroll Bar:** Allows the user to control which portion of the document is visible in the window; available either horizontally or vertically or both

- **Shareware:** Software provided at a minimal cost to users who are on their honor to send in payment to the programmer
- **Spreadsheet:** A program arranged in rows and columns that manipulates numbers
- **Tool Bar:** A graphical representation of program activities; a row of icons used to perform tasks in a program
- **URL:** Uniform resource locator; the address of a site on the World Wide Web; a standard way of locating objects on the Internet
- **Virus:** A deliberately harmful computer program designed to create annoying glitches or destroy data
- **Window:** A screen in a software program that permits the user to view several programs at one time
- **Word Processor:** A program that allows the user to create primarily text document.
- **CPU:** Central processing unit; the brain of the computer; controls the other elements of the computer
- **Disk Drive:** A peripheral device that reads and/or writes information on a disk
- **Hard Drive:** A device (usually within the computer case) that reads and writes information, including the operating system, program files, and data files
- **Keyboard:** A peripheral used to input data by pressing keys
- **Modem:** A peripheral device used to connect one computer to another over a phone line
- **Application Files :**Program files environment where you can create and edit the kind of document that application makes.
- **Click :**To select an object by pressing the mouse button when the cursor is pointing to the required menu option, icon or hypertext link.
- **Close :**To close a window that has been opened for viewing and / or editing.
- **Computer :**A general-purpose machine that processes data according to a set of instructions that are stored internally either temporarily or permanently.
- **Central Processor Unit (CPU) :**Central Processor Unit—the main chip on the computer that makes everything go.
- **Crash :**Your computer or application no longer works correctly and so you "lose" all the work you've done since the last time you saved.
- **Creating A File :**Storing data as a file with an assigned file name that is unique within the directory it resides in.
- **Delete :**To remove an item of data from a file or to remove a file from the disk.
- **Desktop :**An on-screen representation of a desktop such as used in the Macintosh and Windows operating systems.
- **Dialog Boxes :**Takes over your screen and allows you to "dialog" with the computer.
- **Directory (AKA Folder, sub-directory) :**Allows you to organize files and other folders.
- **Disk Space :**This is the place where your files live. The greater the disk space the more files you can keep. (See also Megabytes) More disk space is always better than less. You can never have much disk space.
- **Documents :**Files you create and edit.
- **Document Files :**Files we care about (memos, letters, pictures, etc.)
- **Double Click :**To press the mouse button twice in rapid succession without moving the mouse between clicks.
- **Drag :**To move an object on screen in which its complete movement is visible from starting location to destination.

- **Edit** :To make a change to existing data.
- **File Cabinet** :Metaphorically, the hard drive (and other kinds of storage media like floppy disks) which store files and folders.
- **Folder (AKA Directory, Sub-Directory)** :Allows you to organize files and other folders.
- **Folder Icons** :Collections of documents and other folders.
- **Icons** :In a graphical user interface (GUI), a small, pictorial, on screen representation of an object, such as a document, program, folder or disk drive.
- **Icon View** :Allows you to see icons of folders and files primarily as icons with little information.
- **Keyboard** :This is the primary text input device. It also contains certain standard function keys, such as the Escape key, tab, and arrow keys, shift and control keys, and sometimes other manufacturer-customized keys.
- **Kilo (K)** :This is a unit of measure = 1,000. So 1,000 bytes is a KiloByte.
- **List View** :Shows the icons but also orders the icons (often by name, but can sort the list in other ways) and shows more information about them.
- **Macintosh** :The brand name of a family of personal computers (hardware) and an operating system (software) from Apple, introduced in 1984.
- **Megabytes (Mb)** :Mega = million so Mb is 1,000,000 bytes. It's enough information for the computer to store one character (e.g. "h"), so 1mb text file = 1,000,000 keystrokes in that file. Just to confound the masses, although RAM and Disk Space do something completely different we measure both in megabytes. This leads to confusion.
- **Menu** :Displays a list of commands, some with images next to them.
- **Modifier Keys** :Keys that change the meaning of what you type.
- **Mouse** :Pointing device that allows you to tell the computer what to do.
- **Operating System (OS)** :System software that allows your computer to work.
- **Pointer (AKA Cursor)** :The name of the arrow (or other shape) that tracks across the screen as you move the mouse (or other pointing device) around.
- **Random Access Memory (RAM)** :This stands for Random Access Memory. You can think of this as the "space" where your computer does its processing. The more space you have the more processes you can run at the same time. More RAM is always better than less. You can never have much RAM.
- **Recycle Bin** :Place where you put files and folders that you may later want to delete or get rid of. Compare Trash.
- **Resize Box** :Allows you to change the size and shape of a window.
- **Right click** :To press the right button on the mouse. (This is Windows specific. On a Mac running System 8 or higher, you hold down the Control key and then click to get the same effect.)
- **Save** :Tell the computer to create a file on disk that has the information you've put into the document (usually typing).
- **Save As** :Give the file a name and/or store the file in a certain place.
- **Scroll bar** :Allows you to move around through your document.
- **Shut down** :To quit all applications and turn off the computer.
- **Software** :Instructions that tell the computer what to do.
- **System files** :Allows our computer to work.
- **Trash** :Place where you put files and folders that you want to delete or get rid of.
- **Volume Icons** :Devices that hold files and folders.

- **Windows :**1) The most widely used operating system for personal computers from Microsoft. (Software only. Other companies manufacture the hardware that runs the Windows Operating System.) Compare Macintosh. (Windows with a large "W".)
- **Hardware port:**any place on the computer where devices can be plugged in
- **USB:**type of computer port used for keyboards, drives, mouse, etc.
- **CD drive:**a piece of hardware that reads CD's
- **Hardware:**physical parts of the computer and devices used with a computer
- **Software:**computer programs
- **Operating system:**software that communicated with hardware enabling other software to run (examples: Windows, Mac OS, and Linux)
- **Icon:**a visual representation of files and programs on the computer
- **Shortcut:**uses an icon like a button to go directly to a file or program
- **Folder:**store files just like real folders
- **File:**a collection of data stored in one unit, identified by a filename(examples: document, pictures, videos, etc.)
- **Window:**an area on the screen that displays information for a specific program
- **Dialog box:**a window that pops up with options for the user to select
- **Toolbar:**a set of icons or buttons that is part of the software being used

5.10 Short forms for computer and internet terminology

AAL	ATM Adaptation Layer
AARP	AppleTalk Address Resolution Protocol
ABM	Asynchronous Balance Mode (HDLC)
ABR	Available Bit Rate
AC	Access Control (IEEE)
ACF	Access Control Field (DQDB)
ACK	Acknowledgment
ADM	Add/Drop Multiplexer
ADSL	Asymmetric Digital Subscriber Links
AIS	Alarm Indication Signal (SONET)
PC	Personal computer
COMPUTER	Commonly operating machine particularly used for technology entertainment and research
HTML	Hyper text markup language
AJAX	Asynchronous javascript and xml
ORACLE	Oak ridge automatic computer and logical engine
RDBMS	Relational database management system
SQL	Structured query language
XML	Extensible markup language
PERL	Practical extraction and report language
PHP	Hypertext preprocessor
ASP	Active server pages
API	Application programming interfaces
XHTML	Extensible hypertext markup language

CSS	Cascading style sheets
ASCII	American standard code for information interchange
XSL	Extensible style sheet language
J2EE-	Java 2 platform enterprise edition
JSP-	Java server page
VBS	Visual basic scripting language
JS	Java script
3GP	3rd generation protocol
3GPP	3rd generation partnership project
AAC	Advanced audio codec
AC3	Dolby digital sound file
AIFF	Audio interchange file format
AMR	Adoptive multi rate
AWB	Adoptive multi rate wideband
AVI	Audio video interleaved
CDA	Compact disk audio
DLL	Dynamik link library
DVD	Digital video disk
EXE	Executable format
FLAC	Free lossless audio codec
FLV	Flash live video
JPEG	Joint photographic expert group
BMP	Bitmap
GIF	Graphics interchange format
JAD	Java application development
JAR	Java archive
MIDI	Musical instrument digital interface
MMF	Music Mobile Format
MP2	Mpeg audio layer 2
MP3	Mpeg audio layer 3
MP4	Mpeg layer 4
MPEG	Motion picture experts group
PDF	Portable document format
PNG	Portable network/new graphics
RM	Real media
SIS	Symbian installation source
SWF-	Shock wave flash
ZIP	Zone improvement plan
VCD	Video compact disk
VOB	Video object
WAV	Waveform pcm audio
WMA	Windows media audio
PDF	Portable document format
M3G	Mobile 3d graphics
M4A	Mpeg-4 audio file
MMF	Synthetic music mobile application file

XMF	Extensible music file
WBMP	Wireless bitmap image
DVX	Divx video
WML	Wireless markup language
CD	Compact disk.
DVD	Digital versatile disk.
CRT	Cathode ray tube.
DAT	Digital audio tape.
DOS	Disk operating system.
GUI	Graphical user interface.
HTTP	Hyper text transfer protocol.
HTTPS	Hyper text transfer protocol secure
. IP	Internet protocol.
ISP	Internet service provider.
TCP	Transmission control protocol.
UPS	Uninterruptible power supply.
VHF	Very high frequency.
UHF	Ultra high frequency.
ALU	Arithmetic logic unit
URL	Uniform resource locator.
WINDOWS	Wide interactive network for development of office work so- lution
AMD	Advance micro device
ASPI	Advacne scsi programming interface
ASIC	Application specific integrated circuit
EPROM	Erasable programmable read only memory.
FPS	Frame per second
USB	Universal serial bus.
VIRUS	Vital information resource under seized.
RAM	Random access memory
ROM	Read only memory
MIME	Multipurpose internet mail extensions
SMTP	Simple mail transfer protocol
IMAP	Internet message access protocol
HSDPA	High speed downlink packet access.
EDGE	Enhanced data rate for gsm evolution.
GPRS	General packet radio service.
3G	3rd generation.
GSM	Global system for mobile communication.
CDMA	Code division multiple access.
UMTS	Universal mobile telecommunication system.
ARPANET	Advanced research project agency network.
AM/FM	Amplitude/ frequency modulation.
WLAN	Wireless local area network
CPU	Central processing unit
RAM	random access memory

ROM	read only memory
PROM	Programmable Read Only Memory
HDD	Hard Disk Drive
FDD	Floppy Disk Drive
KBD	KeyBoard
I/O	Input & Output
CD	Compact Disk
DVD	Digital Video Disk
SMPS	Switch Mode Power Supply
POST	Power ON Self Test
BIOS	Basic Input Output System
VDU	Visible Display Unit
LED	Light Embedded Diode
LCD	Liquid Crystal Display
USB	Universal Serial Bus
VGA	Video/Visual Graphic Adapter
LAN	Local Area Network
WAN	Wide Area Network
MAN	Metropolitan Area Network
HLL	High Level Language
LLL	Low Level Language
MIPS	Million of Instruction Per Second
Mbps	Mega Bytes Per second
Kbps	Kilo Bytes per second
CMD	Command
KB	Kilobyte
MB	Mega byte
GB	Giga byte
GiB	Gibi byte
TB	Tera byte
TiB	Tebi byte
PB	Peta byte
PiB	Pebi byte
EB	Exa byte
ATA	Advanced Technology Attachment
ASCII	American Standard Code for Information Interchange
ARPANET	Advanced Research Projects Agency Network
Ajax	Asynchronous JavaScript and XML
ASP	Active Server Pages/Application Service Provider
API	Application Programming Interface
ATA	Advanced Technology Attachment
ATM	Asynchronous Transfer Mode
BiDi	Bi-Directional
bin	binary
BAL	Basic Assembly Language
BASIC	Beginner's All-Purpose Symbolic Instruction Code

BIOS	Basic Input Output System
bps	bits per second
BCD	Binary Coded Decimal
Blog	Web Log
BMP	Basic Multilingual Plane
BT	BitTorrent / Bluetooth
BW	Bandwidth
CAD	Computer-Aided Design
CPU	Central Processing Unit
CIM	Common Information Model
CRS	Computer Reservations System
CRT	Cathode Ray Tube
CLI	Command Line Interface
CDMA	Code Division Multiple Access
CMOS	Complementary Metal-Oxide Semiconductor
CSI	Common System Interface
CD-R	CD-Recordable
CD-ROM	CD Read-Only Memory
CD-RW	CD-Rewritable
CMOS	Complementary Metal-Oxide Semiconductor
CSV	Comma-Separated Values
COBOL	Common Business-Oriented Language
CGI	Common Gateway Interface /Computer-Generated Imagery
DAO	Data Access Objects
DHTML	Dynamic Hypertext Markup Language
DAT	Digital Audio Tape
DB	Database
DIVX	Digital Video Express
DVD	Digital Video Disc
DVD-R	DVD-Recordable
DVD-ROM	DVD-Read Only Memory
DVD-RW	DVD-Rewritable
DOS	Disk Operating System
DDR	Double Data Rate
DNS	Domain Name System
EEPROM	Electrically Erasable Programmable Read-Only Memory
ENIAC	Electronic Numerical Integrator And Computer
EBCDIC	Extended Binary Coded Decimal Interchange Code
EPROM	Erasable Programmable Read-Only Memory
ESD	Electrostatic Discharge
FAT	File Allocation Table
FAQ	Frequently Asked Questions
FDD	Floppy Disk Drive
FDMA	Frequency-Division Multiple Access.
FS	File System

FSB	Front Side Bus
FTP	File Transfer Protocol
Gb	Gigabit / GB&Gigabyte
GIF	Graphics Interchange Format
GPL	General Public License
GPRS	General Packet Radio Service
HD	High Density
HDD	Hard Disk Drive
HD DVD	High Definition DVD
HP	Hewlett-Packard
HT	Hyper Threading
HTM	Hierarchical Temporal Memory
HTML	Hypertext Markup Language
HTTP	Hypertext Transfer Protocol
Hz	Hertz
IBM	International Business Machines.
IC	Integrated Circuit
ICMP	Internet Control Message Protocol
ICT	Information and Communication Technology
IDE	Integrated Development Environment /Integrated Drive Electronics
IE	Internet Explorer
IIS	Internet Information Services
IM	Instant Messaging
IMAP	Internet Message Access Protocol
I/O	Input/Output
IP	Intellectual Property /Internet Protocol
IrDA	Infrared Data Association
ISA	Industry Standard Architecture /Instruction Set Architecture
iSCSI	Internet Small Computer System Interface
ISDN	Integrated Services Digital Network
ISP	Internet Service Provider
IT	Information Technology
J2EE	Java 2 Enterprise Edition
J2ME	Java 2 Micro Edition
J2SE	Java 2 Standard Edition
JDK	Java Development Kit
JPEG	Joint Photographic Experts Group
JRE	Java Runtime Environment
JS	JavaScript
KB	Keyboard /Kilobyte /Knowledge Base
Kb	Kilobit
kHz	Kilohertz
KVM	Keyboard, Video, Mouse
LED	Light-Emitting Diode

MAN	Metropolitan Area Network
Mb	Megabit
MB	Megabyte
MBR	Master Boot Record
MDI	Multiple Document Interface
MHz	Megahertz
MIDI	Musical Instrument Digital Interface
MMU	Memory Management Unit
MMX	Multi-Media Extensions
MNG	Multiple-image Network Graphics
MPEG	Motion Pictures Experts Group
MOSFET	Metal-Oxide Semiconductor Field Effect Transistor
MPEG	Motion Pictures Experts Group
MS	Microsoft
MS-DOS	Microsoft DOS
NIC	Network Interface Controller
NTFS	NT Filesystem
NVRAM	Non-Volatile Random Access Memory
OO	Object-Oriented
OS	Open Source /Operating System
P2P	Peer-To-Peer
PAN	Personal Area Network
PATA	Parallel ATA
PC	Personal Computer
PCB	Printed Circuit Board
PC DOS	Personal Computer Disk Operating System
PCI	Peripheral Component Interconnect
PCIe	PCI Express
PERL	Practical Extraction and Reporting Language
PGA	Pin Grid Array
PHP	PHP: Hypertext Preprocessor
PIC	Peripheral Interface Controller /Programmable Interrupt Controller
PLC	Power Line Communication /Programmable Logic Controller
POST	Power-On Self Test
PPI	Pixels Per Inch
PS/2	Personal System/2
PSU	Power Supply Unit
RAD	Rapid Application Development
RAM	Random Access Memory
RAID	Redundant Array of Inexpensive Disks
RAIT	Redundant Array of Inexpensive Tapes
RF	Radio Frequency
RGB	Red, Green, Blue (RGBA&Red, Green, Blue, Alpha)
RIP	Raster Image Processor /Routing Information Protocol

ROM	Read Only Memory
ROM-DOS	Read Only Memory - Disk Operating System
SATA	Serial ATA
SCSI	Small Computer System Interface
SDRAM	Synchronous Dynamic Random Access Memory
SFTP	Secure FTP /Simple File Transfer Protocol
SHDSL	Single-pair High-speed Digital Subscriber Line
SIMD	Single Instruction, Multiple Data
SIMM	Single Inline Memory Module
SPI	Serial Peripheral Interface
SPI	Stateful Packet Inspection
SVG	Scalable Vector Graphics
SVGA	Super Video Graphics Array
TB	TeraByte
TCP/IP	Transmission Control Protocol/Internet Protocol
TDMA	Time Division Multiple Access
tmp	temporary
TTF	TrueType Font
TTL	Transistor-Transistor Logic
UPS	Uninterruptible Power Supply
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
USB	Universal Serial Bus
UTF	Unicode Transformation Format
UTP	Unshielded Twisted Pair
VB	Visual Basic
VBA	Visual Basic for Applications
VBS	Visual Basic Script
VPN	Virtual Private Network
VPU	Visual Processing Unit
WAN	Wide Area Network
WAP	Wireless Access Point /Wireless Application Protocol
Wi-Fi	Wireless Fidelity
WLAN	Wireless Local Area Network
WMA	Windows Media Audio
WMV	Windows Media Video
WPAN	Wireless Personal Area Network
XML	eXtensible Markup Language
Y2K	Year Two Thousand
EiB	Exbi byte
ZB	Zetta byte
ZiB	Zebi byte
YB	Yotta byte
YiB	Yobi byte
LCD	Liquid crystal display
LED	Light-emitting diode

NTFS	New technology file system
FAT	File allocation table
DOC	Document
TXT	Text
SD	Secure digital
USB	Universal serial bus
IT	Information technology
NET	Internet
IP	Internet protocol
AP	Access point
DNS	Domain name system
HTTP	Hypertext transfer protocol
HTTPS	Hypertext transfer protocol secure
HTML	Hypertext markup language
PHP	Hypertext preprocessor
XML	Extensible markup language
CSS	Cascading style sheets
ASP	Active server pages
SQL	Structured query language
RSS	Really simple syndication
DMCA	Digital millennium copyright act
IPV4	Internet protocol version 4
IPV6	Internet protocol version 6
VOIP	Voice over internet protocol
FAQ	Frequently asked questions
SEO	Search engine optimization
1024 Bytes	1 Kilo Byte (KB)
1024 KB	1 Mega Byte (MB)
1024 MB	1 Gyga Byte (GB)
1024 GB	1 Tera Byte (TB)
1024 TB	1 Peta Byte (PB)
1024 PB	1 Exa Byte (EB)
1024 EB	1 Zetta Byte (ZB)
1024 ZB	1 Yotta Byte (YB)
ANI	Automatic Number Identification
ANS	American National Standards
ANSI	American National Standards Institute
API	Application Programming Interface
APS	Automatic Protection Switching
ARM	Asynchronous Response Mode (HDLC)
ARP	Address Resolution Protocol
Async	Asynchronous
ATM	Asynchronous Transfer Mode
AU	Access Unit (DQDB)
AUI	Attachment Unit Interface (Ethernet 802.3)
B8ZS	Bipolar with 8 Zero Substitution

BCC	Block Check Characters
BCD	Binary Coded Decimal
BECN	Backward Explicit Congestion Notification (FR)
Bellcore	Bell Communications Research
BER	Bit Error Ratio or Rate
BGP	Border Gateway Protocol
BIP	Bit Interleaved Parity (8)
B-ISDN	Broadband Integrated Services Digital Network
B-NT	Broadband Network Terminator
BO	Bit Oriented (SONET)
BOC	Bell Operating Company
BOM	Beginning of Message (DQDB)
BootP	Bootstrap Protocol
bps	Bits per second or bytes per second
BRI	Basic Rate Interface (ISDN)
BSC	IBMOs Binary Synchronous Communications protocol
B-TA	Broadband Terminal Adapter (ATM)
B-TE	Broadband Terminal Equipment (ATM)
CAD/CAM	Computer Aided Design/Computer Aided Manufacturing
CAN	Customer Access Node (SMDS)
CBDS	Connectionless Broadband Data Service
CBEMA	Computer and Business Equipment Manufacturers Association
CBR	Constant Bit Rate
CCI	Carrier-to-Carrier Interface
CCITT	Consultative Committee International Telegraph & Telephone
CD	CountDown counter (DQDB)
CE	Connection Endpoint
CEPT	Conference on European Post & Telegraph
CIR	Committed Information Rate (FR)
CL	Connectionless (SONET)
CLEC	Competitive Local Exchange Carrier
CLLM	Consolidated Link Layer Management (FR)
CLNP	Connectionless Layer Network Protocol
CLNS	ConnectionLess Network Service (OSI)
CLSF	ConnectionLess Server Function (ITU-T)
CMIP	Common Management Interface Protocol (ISO)
CMIS	Common Management Information Service (ISO)
CMISE	CMIS Element (ISO)
CMT	Connection Management (FDDI)
CNMS	Customer Network Management System
CO	Central Office
COAM	Customer Owned and Maintained
COCF	Connection-Oriented Convergence Function (DQDB)
COM	Continuation of Message (DQDB)

CONS	Connection-Oriented Network Service (ITU-T)
CPE	Customer Premises Equipment
C/R	Command/Response Indicator or bit
CRC	Cyclic Redundancy Check or Test
CS	Convergence Sublayer (DQDB)
CSMA/CD	Carrier-Sense Multiple Access with Collision Detection
CSU	Channel Service Unit
CTI	Computer-to-telephony interface
DA	Destination Address field
DAL	Dedicated Access Line
DARPA	Defense Advanced Research Program Agency
DARPAnet	Defense Advanced Research Program Agency network
DAS	Dual-Attach Station connection (FDDI)
DCE	Data Communications Equipment
DCS	Digital Cross-connect System
DDD	Direct Distance Dialing
DDS	Digital Data Service
DE	Discard Eligibility (FR)
DEC	Digital Equipment Corporation
DH	DMPDU Header (DQDB)
DHCP	Dynamic Host Configuration Protocol
DLCI	Data Link Connection Identifier (FR)
DMPDU	Derived MAC PDU (DQDB)
DNIS	Directory Number Information Service
DNS	Distributed Naming Service
DPG	Dedicated Packet Group (FDDI)
DoD	Department of Defense
DQDB	Distributed Queue Dual Bus (IEEE)
DS0	Digital Signal Level 0
DS1	Digital Signal Level 1
DS3	Digital Signal Level 3
DSAP	Destination Service Access Point (LLC)
DSG	Default Slot Generator (DQDB)
DSP	Digital Signal Processor
DSU	Data Service Unit
DT	DMPDU trailer (DQDB)
DTE	Data Terminal Equipment
DTMF	Dual Tone MultiFrequency
DVMRP	Distance Vector Multicast Routing Protocol
DXC	Digital Cross-Connect
DXI	Data Exchange Interface (SMDS, ATM)
E1	European Transmission Level 1
E3	European Transmission Level 3
EA	Extended Address
ECN	Explicit Congestion Notification (FR)
ECSA	Exchange Carriers Standards Association

ED	End Delimiter (IEEE 802)
EDI	Electronic Data Interchange (or document interchange)
EGP	Exterior Gateway Protocol
EGRP	Exterior Gateway Routing Protocol
EIA	Electronics Industries Association
EIGRP	Enhanced Interior Gateway Routing Protocol
EIR	Excess Information Rate
EMA	Enterprise Management Architecture (DEC)
EOM	End Of Message
EOT	End Of Transmission
ES	End System (OSI)
ESF	Extended SuperFrame
ES-IS	End System-to-Intermediate System protocol (OSI)
ETB	End of Transmission Block
ETSI	European Telecommunications Standards Institute
ETX	End of Text
F	Flag
FC	Frame Control field (FDDI)
FCS	Frame Check Sequence (FR)
FDDI	Fiber Distributed Data Interface (ANSI)
FDDI-II	Fiber Distributed Data Interface Version II
FDM	Frequency Division Multiplexing
FEBE	Far End Block Error
FEC	Forward Error Correction
FECN	Forward Explicit Congestion Notification (FR)
FERF	Far End Reporting Failure
FIFO	First In, First Out
FM	Frequency Modulation
FOIRL	Fiber-Optic InterRepeater Link (Ethernet 802.3)
fps	Frames per second
FR	Frame Relay
FRAD	Frame Relay Assembler/Disassembler, or Access Device
FS	Frame Status field (FDDI)
FT1	Fractional T1
FTP	File Transfer Protocol
Gbit	Gigabits (billions of bits)
Gbps	Gigabits per second (10 ⁹ bps)
GFC	Generic Flow Control
GFID	General Format Identifier
GFI	General Format Identifier (X.25)
GGP	Gateway-Gateway Protocol (DoD)
GOS	Grade of Service
GOSIP	Government Open System Interconnection Profile
GUI	Graphical User Interface
HCS	Header Check Sequence (DQDB)
HDTV	High Definition TeleVision

HDLC	High-Level Data Link Control (ISO)
HEC	Header Error Control
HOB	Head of Bus (DQDB) A or B
HSRP	Hot Standby Routing Protocol
HSSI	High-Speed Serial Interface
HTML	Hypertext Markup Language
HTTP	Hypertext Transfer Protocol
Hz	Hertz or cycles per second
ICF	Isochronous Convergence Function (DQDB)
ICIP	Inter-Carrier Interface Protocol (SMDS)
ICMP	Internet Control Message Protocol
IDRP	InterDomain Routing Protocol
IEC	InterExchange Carrier
IEEE	Institute of Electrical and Electronics Engineers
IETF	Internet Engineering Task Force
IGP	Interior Gateway Protocol
IGP	Interior Gateway Routing Protocol
IGRP	Interior Gateway Routing Protocol (CiscoS)
ILMI	Interim Local Management Interface
IMPDU	Initial MAC Protocol Data Unit (DQDB)
IMSSI	Inter-MAN Switching System Interface (DQDB)
I-MAC	Isochronous Media Access Control (FDDI)
intraLATA	intraLocal Access Transport Area
ISN	Initial Sequence Number (DoD)
IP	Internet Protocol (DoD)
IPCP	Internet Protocol Control Protocol (DoD)
IPX	Internetwork Packet Exchange protocol (Novell)
IS	Intermediate System (OSI)
ISDN	Integrated Services Digital Network
ISDU	Isochronous Service Data Unit (DQDB)
IS-IS	Intermediate System-to-Intermediate System (OSI)
ISO	International Standards Organization
ISP	Internet Service Protocol
ISSI	Inter-Switching System Interface (SMDS)
ISU	Isochronous Service User (SMDS)
IT	Integrated Technology
ITU	International Telecommunications Union
IVR	Integrated Voice Recognition
IXC	InterExchange Carrier
kbit	kilobit (thousands of bits)
kbps	kilobits per second (10 ³ bps)
km	kilometers (10 ³ meters)
LAN	Local Area Network
LANE	LAN Emulation
LAP-B	Link Access Procedure - Balanced (X.25)
LAP-D	Link Access Procedure - D Channel (ISDN/Frame Relay)

LAP-F	Link Access Procedure - Frame Mode
LAT	Local Area Transport protocol (DEC)
LATA	Local Access Transport Area
LB	Letter Ballot
LCD	Liquid Crystal Display
LCGN	Logical Channel Group Number
LCP	Link Control Protocol
LEC	Local Exchange Carrier
LECS	LAN Emulation Configuration Server
LES	LAN Emulation Server
LLC	Logical Link Control (IEEE 802.X)
LME	Layer Management Entity (DQDB)
LMI	Local Management Interface (FR)
LSB	Least Significant Bit
LT	Line Termination
LTE	Line Terminating Equipment (SONET)
LU	Logical Unit (SNA)
m	meter
MAC	Media Access Control (IEEE 802.X)
MAN	Metropolitan Area Network (DQDB, FDDI)
Mbit	Megabits (millions of bits)
Mbps	Megabits per second (10 ⁶ bps)
MCF	MAC Convergence Function (DQDB)
MCP	MAC Convergence Protocol (DQDB)
MHz	Megahertz
MIB	Management Information Base (SNMP)
MIC	Media Interface Connector (FDDI)
MID	Message IDentifier (DQDB), Multiplexing IDentifier (ATM)
MIPS	Millions of Instructions Per Second
MMF	Multimode Fiber
MOP	Maintenance and Operation Protocol (DEC)
MOSPF	Multicast Open Shortest Path First
MPEG	Motion Picture Encoding Group
MPOA	MultiprotocolOver ATM
ms	millisecond (one-thousandth of a second, 10 ⁻³ seconds)
μs	microsecond (10 ⁻⁶ second)
MSAP	MAC Service Access Point (SMDS)
MSB	Most Significant Bit
MSDU	MAC Service Data Unit (SMDS)
MSS	MAN Switching System (SMDS)
MTU	Maximum Transmission Unit
MUX	Multiplexer
NANP	North American Numbering Plan
NBP	Name Binding Protocol
NCP	Network Control Protocol or Point (SNA)
NE	Network Element

NetBIOS	Network Basic Input/Output System protocol
NFS	Network File Server
nm	nanometer (10 ⁻⁹ meter)
NIC	Network Interface Card
NMP	Network Management Process (SMDS)
NMS	Network Management System or Station
NNI	Network-Node Interface (SONET)
NNI	Network-to-Network Interface (FR)
NOS	Network Operating System
NP	Network Performance
NPA	Numbering Plan Area
NRM	Normalized Response Mode (ISO)
NRZ	Non-return to zero
NRZI	Non-return to zero invert ones
ns	nanosecond (10 ⁻⁹ second)
OS	Operating System
OSI	Open Systems Interconnection
OSI CLNS	Connectionless Network System (OSI)
OSIRM OSI	Reference Model
OSPF	Open Shortest Path First
OTC	Operating Telephone Company
PA	Prearbitrated segment or slot (DQDB)
PABX	Private Automatic Branch Exchange
PAD	Packet Assembler/Disassembler (X.25)
PAF	Prearbitrated Function (DQDB)
PBX	Private Branch Exchange
PCN	Personal Communications Network
PCR	Peak Cell Rate
PCS	Personal Communications Services
PDC	Packet Data Channel (FDDI)
PDH	Plesiochronous Digital Hierarchy
PDN	Public Data Network
PDS	Packet Driver Specification for public domain
PDU	Protocol Data Unit (IEEE)
Ph-SAP	Physical layer SAP (DQDB)
PHY	Physical layer standard (FDDI)
PID	Protocol IDentification
PIM	Protocol Independent Multicast
Ping	Packet Internet Groper
PIR	Protocol Independent Routing
PL PAD	Length (DQDB)
PLCP	Physical Layer Convergence Protocol (DQDB)
PM	Performance Monitoring
PMD	Physical Layer Medium Dependent standard (FDDI)
POH	Path Overhead (SONET)
POI	Path Overhead Identifier (DQDB)

PON	Passive Optical Network
PoP	Point of Presence
POTS	Plain Old Telephone Service
PPP	Point-to-Point Protocol (Internet)
Pps	Packets per second
PRI	Primary Rate Interface (ISDN)
PSPDN	Packet-Switched Public Data Network
PT	Payload Type
PTE	Path-Terminating Equipment (PTE)
PTT	Postal, Telegraph & Telephone Ministry/Administration
PU	Physical Unit (SNA)
PVC	Permanent Virtual Circuit or Channel (FR, X.25)
QA	Queued Arbitrated (DQDB) segment, slot, access function
QAF	Queued Arbitrated Function (DQDB)
QoS	Quality of Service
QPSX	Queued Packet and Synchronous Exchange
RBOC	Regional Bell Operating Company
RCP	Remote Console Protocol (DEC)
RDI	Remote Defect Indication (ATM)
REJ	Reject frame
RFC	Request for Comments
RIP	Routing Information Protocol
RISC	Reduced Instruction Set Computer
RJE	Remote Job Entry
RMT	Ring Management (FDDI)
RNR	Receive Not Ready
RQ	Request Counter (DQDB)
RR	Receive Ready frame
RSVP	Resource Reservation Protocol
RTMP	Routing and Management Protocol (Apple)
RTP	Routing Update Protocol
s	second
SA	Source Address field
SAP	Service Access Point (ISO)
SAPI	Service Access Point Identifier (ISO)
SAR	Segmentation and Re-assembly (ATM)
SAS	Single-Attach Station connection (FDDI)
SD	Start Delimiter
SDH	Synchronous Digital Hierarchy (ITU-T)
SDLC	Synchronous Data Link Control protocol (IBM)
SDU	Service Data Unit (DQDB)
SES	Severely Errored Seconds
SF	SuperFrame
SIG	SMDS Interest Group
SIP	SMDS Interface Protocol (SMDS)
SIR	Sustained Information Rate (SMDS)

SMDS	Switched Multimegabit Data Service
SMF	Single-Mode Fiber
SMT	System Management protocol (FDDI)
SMTP	Simple Mail Transfer Protocol
SN	Sequence Number
SNA	System Network Architecture (IBM)
SNAP	SubNetwork Access Protocol (SMDS)
SNI	Subscriber Network Interface (SMDS)
SNMP	Simple Network Management Protocol (DoD)
SOH	Section Overhead
SONET	Synchronous Optical Network (ANSI)
SPE	Synchronous Payload Envelope (SONET)
SPF	Shortest Path First protocol
SPM	FDDI-to-SONET Physical Layer Mapping standard
SQL	Structured Query Language
SREJ	Select Reject frame
SRT	Source Route Transparent protocol
SS	Switching System (SMDS)
SSAP	Source Service Access Point (LLC)
SSCOP	Service-Specific Connection Oriented Protocol (ATM)
SSCS	Service-Specific Convergence Sublayer (ATM)
STE	Section Terminating Equipment (SONET)
STM	Synchronous Transfer Mode or Station Management (SDH)
STM-n	Synchronous Transport Module level n (SDH)
STP	Shielded Twisted Pair
STP	Spanning Tree Protocol (IEEE 802.1d)
STS-n	Synchronous Transport Signal Level n (SONET)
STS-Nc	Concatenated Synchronous Transport Signal Level N
SVC	Switched Virtual Circuit or Signaling Virtual Channel
SYN	Synchronous Idle
t	time
TA	Terminal Adapter
TAPI	Telephony Application Program Interface
TC	Transmission Convergence sub-layer of PHY layer (ATM)
TCP	Transmission Control Protocol (DoD)
TCP/IP	Transmission Control Protocol/Internet Protocol (DoD)
TDM	Time Division Multiplexing
TDMA	Time Division Multiple Access
TE	Terminal Equipment
TP	Transport Protocol (CCITT)
TP4	Transport Protocol Class 4 (ISO)
TR	Technical Report
TSAPI	Telephony Services Application Programmers Interface
UBR	Unspecified Bit Rate
UDP	User Datagram Protocol (DoD)
UNI	User-to-Network Interface

UNMA	Unified Network Management Architecture (AT&T)
UTP	Unshielded Twisted Pair
VBR	Variable Bit Rate
VC	Virtual Channel or Virtual Call
VCC	Virtual Channel Connection
VCI	Virtual Channel or Circuit Identifier (DQDB)
VC-n	Virtual Container-n (SDH)
VLSI	Very Large Scale Integration
VP	Virtual Path (ATM)
VPI	Virtual Path Identifier (ATM)
VPN	Virtual Private Network
VT	Virtual Tributary (SONET)
VTx VT	of size x (currently x = 1.5, 2, 3, 6)
VTx-Nc	Concatenated Virtual Tributary (SONET)
WAN	Wide Area Network
XNS	Xerox Network Systems protocol (XEROX)
ZIP	Routing and Management protocol (Apple)

5.11 Solved exercises

- The two parts of a computer are
 - Zip Drive and CD.
 - Monitor and Keyboard
 - Hardware and Software
 - Bus and Power
- The Central Processor Unit (CPU) is a
 - Place where your files live.
 - Main chip on the computer that makes everything go.
 - Space where your computer does its processing.
 - Disk Drive
- What does RAM stand for?
 - Random access memory
 - Read access memory
 - Random auxiliary memory
 - Random AntiMemory
- Using websites to pour out one's grievances is called: (June-2006)
 - cyber venting
 - cyber ranting
 - web hate
 - web plea
- In web search, finding a large number of documents with very little relevant information is termed: (June-2006)
 - poor recall
 - web crawl
 - poor precision rate
 - poor web response
- The concept of connect intelligence is derived from: (June-2006)
 - virtual reality
 - fuzzy logic
 - Bluetooth technology
 - value added networks
- Use of an ordinary telephone as an Internet appliance is called: (June-2006)
 - voice net
 - voice telephone
 - voice line
 - voice portal

1. C 2. B 3. A 4. A 5. A 6. D 7. C

- 8.** Video transmission over the Internet that looks like delayed livecasting is called: (June-2006)
- (A) virtual video
 - (B) direct broadcast
 - (C) video shift
 - (D) real-time video
- 9.** LAN stands for: (Dec-2006)
- (A) Local And National
 - (B) Local Area Network
 - (C) Large Area Network
 - (D) Live Area Network
- 10.** A normal CD-ROM usually can store up to ___ data?
- (A) 680 KB
 - (B) 680 Bytes
 - (C) 680 MB
 - (D) 680 GB
- 11.** Which of the following required large computer memory?
- (A) Imaging
 - (B) Graphics
 - (C) Voice
 - (D) All of above
- 12.** Offline device is
- (A) A device which is not connected to CPU
 - (B) A device which is connected to CPU
 - (C) A direct access storage device
 - (D) An I/O device
- 13.** Which of the following programming language started from second generation?
- (A) LISP
 - (B) C
 - (C) QBASIC
 - (D) FORTRAN
- 14.** Which one of the following input device is user-programmable?
- (A) Dumb terminal
 - (B) Smart terminal
 - (C) VDT
 - (D) Intelligent terminal
- 15.** Which is not consisted in a processor
- (A) ALU
 - (B) CU
 - (C) Memory
 - (D) Registers
- 16.** IBM 1401 is the first computer to enter in Nepal. It belonged to
- (A) First Generation
 - (B) Second Generation
 - (C) Third Generation
 - (D) Fourth Generation
- 17.** The Third Generation Computer was made with____
- (A) Vacuum Tube
 - (B) Discrete Components
 - (C) IC
 - (D) Bio Chips
- 18.** Which of the following are the two main components of the CPU?
- (A) Control Unit and Registers
 - (B) Registers and Main Memory
 - (C) Control unit and ALU
 - (D) ALU and bus
- 19.** Disk space is the
- (A) Place where the computer does the processing.
 - (B) Box that holds the guts of the computer.
 - (C) Place where your files live.
 - (D) Main memory of computer

- 20.** A Mega =
(A) 1 Million
(B) 10 Million
(C) 100 Thousand
(D) 1000 Thousand
- 21.** A byte stores enough information for one
(A) File
(B) Keystroke (e.g.: 'd')
(C) Word (e.g. "boy")
(D) Movie
- 22.** Which of the following statement is correct? (Dec-2006)
(A) Modem is a software
(B) Modem helps in stabilizing the voltage
(C) Modem is the operating system
(D) Modem converts the analog signal into digital signal and vice-versa
- 23.** Which of the following is the appropriate definition of a computer? (Dec-2006)
(A) Computer is a machine that can process information.
(B) Computer is an electronic device that can store, retrieve and process both qualitative and quantitative data quickly and accurately.
(C) Computer is an electronic device that can store, retrieve and quickly process only quantitative data.
(D) Computer is a machine that can store, retrieve and process quickly and accurately only qualitative information
- 24.** Information and Communication Technology includes: (Dec-2006)
(A) On line learning
(B) Learning through the use of EDUSAT
(C) Web Based Learning
(D) All the above
- 25.** Which of the following is the appropriate format of URL of e-mail? (Dec-2006)
(A) www_mail.com
(B) www@mail.com
(C) WWW@mail.com
(D) www.mail.com
- 26.** On the keyboard of computer each character has an "ASCII" value which stands for : (J-2007)
(A) American Stock Code for Information Interchange
(B) American Standard Code for Information Interchange
(C) African Standard Code for Information Interchange
(D) Adaptable Standard Code for Information Change
- 27.** Which part of the Central Processing Unit (CPU) performs calculation and makes decision (J-2007)
(A) Arithmetic Logic Unit
(B) Alternating Logic Unit
(C) Alternate Local Unit
(D) American Logic Unit
- 28.** If you had a 1 Mb text file, how many keystrokes would you have?
(A) It depends on how many words you have.
(B) 1 Million
(C) 10 Million
(D) 1000 Million
- 29.** What else do we measure in Megabytes (MB)?
(A) RAM
(B) Disk Space
(C) Both Disk Space and RAM
(D) Only RAM

- 30.** Megahertz (MHz) measures
(A) Sound
(B) Speed
(C) Space
(D) None
- 31.** UNIVAC is
(A) Universal Automatic Computer
(B) Universal Array Computer
(C) Unique Automatic Computer
(D) Unvalued Automatic Computer
- 32.** The basic operations performed by a computer are
(A) Arithmetic operation
(B) Logical operation
(C) Storage and relative
(D) All the above
- 33.** C.D- R.O.M. is a
(A) Random Access Memory
(B) Volatile memory
(C) Optical memory
(D) None of the above
- 34.** Laser Printer uses
(A) Raster Scan
(B) Camera Lanes
(C) Heat Sensitive paper
(D) None of the above
- 35.** Bandwidth is maximum, along the following communication channel.
(A) Twisted pairs
(B) Optical fiber
(C) Co-axial cable
(D) Infrared
- 36.** EBCDIC code developed by
(A) ANSI
(B) IBM
(C) SILICA
(D) Plastic
- 37.** CPU chip is made of
(A) Carbon
(B) Copper
(C) flexible stack
(D) None of the above
- 38.** Winchester disk means
(A) Disk stack
(B) Removable disk
(C) Flexible stack
(D) None of the above
- 39.** A CPU's processing power is measured in
(A) IPS
(B) CIPS
(C) MIPS
(D) KIPS
- 40.** One Kilobyte means
(A) 2^2 Bytes
(B) 2^{10} Bytes
(C) 2^{100} Bytes
(D) None of the above
- 41.** A billionth of a second is defined as
(A) Mill Second
(B) Micro second
(C) Nano second
(D) Pico second
- 42.** A computer system that combines text, graphics, voice and video is known as
(A) Multi user system
(B) Multitasking system
(C) Multimedia
(D) None of the above
- 43.** The range of frequencies available for data transmission is known as
(A) PCI
(B) Multitasking system
(C) Simulation
(D) None of the above

32. D 33. C 34. A 35. B 36. B 37. C 38. A 39. C 40. B 41. C 42. C 43. B
44. C 45. A

- 44.** WAN Hardware does not include
- (A) Multiplexer
 - (B) Router
 - (C) Bridge
 - (D) None of these
- 45.** "Dpi" stands for : (J-2007)
- (A) Dots per inch
 - (B) Digits per unit
 - (C) Dots pixel inch
 - (D) Diagrams per inch
- 46.** The process of laying out a document with text, graphics, headlines and photographs is involved in (J-2007)
- (A) Deck Top Publishing
 - (B) Desk Top Printing
 - (C) Desk Top Publishing
 - (D) Deck Top Printing
- 47.** Transfer of data from one application to another line is known as: (J-2007)
- (A) Dynamic Disk Exchange
 - (B) Dodgy Data Exchange
 - (C) Dogmatic Data Exchange
 - (D) Dynamic Data Exchange
- 48.** CD ROM stands for: (Dec-2007)
- (A) Computer Disk Read Only Memory
 - (B) Compact Disk Read Over Memory
 - (C) Compact Disk Read Only Memory
 - (D) Computer Disk Read Over Memory
- 49.** The 'brain' of a computer which keeps peripherals under its control is called: (Dec-2007)
- (A) Common Power Unit
 - (B) Common Processing Unit
 - (C) Central Power Unit
 - (D) Central Processing Unit
- 50.** RAM chip was invented by
- (A) Intel
 - (B) Motorola
 - (C) IBM
 - (D) None of these
- 51.** What is diameter of CD-ROM
- (A) 12 Cm
 - (B) 12 inch
 - (C) 12 mm
 - (D) None of the above
- 52.** Internet addresses are assigned by
- (A) TETF
 - (B) IEEE
 - (C) INTERNIC
 - (D) None of the above
- 53.** AMD's full name is
- (A) Automated Micro Device
 - (B) Advanced Micro Device
 - (C) Arithmetic Multiple Device
 - (D) None of the above
- 54.** Cyrix makes
- (A) Monitor
 - (B) Microprocessor
 - (C) Printer
 - (D) None of the above
- 55.** Hertz Means
- (A) One cycle per Minute
 - (B) One cycle per second
 - (C) One cycle per milli second
 - (D) One cycle per hour
- 56.** PCI was developed by
- (A) Motorola
 - (B) ASCII
 - (C) Intel
 - (D) None of the above

- 57.** The function of NIC is
(A) Link computer with memory
(B) Link computer with network
(C) Link computer with printer
(D) None of the above
- 58.** Laser printer uses
(A) PDL
(B) HTML
(C) COBOL
(D) None of the above
- 59.** Printer resolutions are measured in
(A) Bits per inch
(B) Dots per inch.
(C) Dots per centimeter
(D) None of the above
- 60.** Photo sensitive chip used in a video camera is known
(A) BCD
(B) CCD
(C) FDD
(D) None of the above
- 61.** ____ is internet address.
(A) HTML
(B) URL
(C) HTTP
(D) None of the above
- 62.** PTM is a ____
(A) Utility software
(B) System software
(C) Application software
(D) None of the above
- 63.** Data can be saved on backing storage medium known as : (Dec-2007)
(A) Compact Disk Recordable
(B) Computer Disk Rewritable
(C) Compact Disk Rewritable
(D) Computer Data Rewritable
- 64.** RAM means: (Dec-2007)
(A) Random Access Memory
(B) Rigid Access Memory
(C) Rapid Access Memory
(D) Revolving Access Memory
- 65.** www represents: (Dec-2007)
(A) who what and where
(B) weird wide web
(C) word wide web
(D) world wide web
- 66.** WYSIWYG - describes the display of a document on screen as it will actually print: (June-2008)
(A) What you state is what you get
(B) What you see is what you get
(C) What you save is what you get
(D) What you suggest is what you get
- 67.** Which of the following is not a Computer language? (June-2008)
(A) PASCAL
(B) UNIX
(C) FORTRAN
(D) COBOL
- 68.** A key-board has at least: (June-2008)
(A) 91 keys
(B) 101 keys
(C) 111 keys
(D) 121 keys
- 69.** An E-mail address is composed of: (June-2008)
(A) two parts
(B) three parts
(C) four parts
(D) five parts
- 70.** Which is pre cursor of the internet?
(A) Gopher
(B) ARPANET
(C) IETF
(D) None of the above

- 71.** Gateway works on ____ level of OSI model.
 (A) 2
 (B) 3
 (C) 7
 (D) None of the above
- 72.** ____ provides port number.
 (A) IETF
 (B) IANA
 (C) MIMC
 (D) None of the above
- 73.** Storage capacity of floppy is maximum in ____
 (A) DSSD
 (B) DSDD
 (C) SSSD
 (D) All the above
- 74.** The ISA is a ____ architecture.
 (A) 8 bit Data bus
 (B) 16 bit data bus
 (C) 32 bit data bus
 (D) 64 bit data bus
- 75.** The serial mouse has a ____
 (A) 9-pin connector
 (B) 16-pin connector
 (C) 25-pin connector
 (D) 32 pin connector
- 76.** Server is also known as ____
 (A) Front end
 (B) Back end
 (C) Connecting end
 (D) None of the above
- 77.** POP is ____
 (A) Mail
 (B) Mail server
 (C) Mail protocol
 (D) None of the above
- 78.** Inventor of WWW is ____
 (A) Bill Gates
 (B) Sachin Tendulkar
 (C) Tim Berner Lee
 (D) None of the above
- 79.** ISA has ____ number of address line.
 (A) 18
 (B) 24
 (C) 16
 (D) 20
- 80.** The 5.25 inch floppy can ____ MB data.
 (A) 2.8 MB
 (B) 1.2 MB Data
 (C) 1.4 M.B
 (D) None of the above
- 81.** Which one is not a Database Management system.
 (A) Access
 (B) Fox Pro
 (C) Netscape
 (D) Oracle
- 82.** The ____ was created in 1989 at the European particle. Physics aboratory in Geneva, Switzerland.
 (A) Arpanet
 (B) WWW
 (C) Firewalls
 (D) folders
- 83.** The operating system uses ____ to help the CPU coordinate processes.
 (A) Webs
 (B) Interrupt Requests (IRQ) I
 (C) Firewalls
 (D) Folders
- 84.** Corel Draw is a popular: (June-2008)
 (A) Illustration programme
 (B) Programming language
 (C) Text programme
 (D) None of the above

- 85.** The accounting software 'Tally' was developed by: (Dec-2008)
- (A) HCL
 - (B) TCS
 - (C) Infosys
 - (D) Wipro
- 86.** Errors in computer programmes are called: (Dec-2008)
- (A) Follies
 - (B) Mistakes
 - (C) Bugs
 - (D) Spam
- 87.** HTML is basically used to design: (Dec-2008)
- (A) Web-page
 - (B) Web-site
 - (C) Graphics
 - (D) Tables and Frames
- 88.** Micro Processing'is made for: (Dec-2008)
- (A) Computer
 - (B) Digital System
 - (C) Calculator
 - (D) Electronic Goods
- 89.** Information, a combination of graphics, text, sound, video and animation is called: (Dec-2008)
- (A) Multiprogramme
 - (B) Multifacet
 - (C) Multimedia
 - (D) Multiprocess
- 90.** Refresh rate of monitors is measured in
- (A) Hertz
 - (B) measured in
 - (C) Megavolt
 - (D) Megahorse
- 91.** PCI is a type of ____
- (A) Plug; and Play
 - (B) Browser
 - (C) Bus
 - (D) Software
- 92.** PPP stands for
- (A) Print to print protocol
 - (B) Point to point Protocol
 - (C) Print to Print protocol
 - (D) none of the above
- 93.** Cache memory is
- (A) Temporary and costly
 - (B) Point to point protocol
 - (C) High speed memory
 - (D) None of the above
- 94.** A GUI is a
- (A) Hardware
 - (B) Language interpreter
 - (C) Software interface
 - (D) An operating system
- 95.** Which of the following is not a procedural language.
- (A) PASCAL
 - (B) Basic
 - (C) Visual Basic
 - (D) None of the above
- 96.** A ____ works like an upside-down mouse.
- (A) Joystick
 - (B) TGrackpad
 - (C) Trackpoint
 - (D) Trackball
- 97.** On a CD-ROM data is stored in the form of ____ & ____
- (A) Lands and pits
 - (B) Dots and Dash
 - (C) High and Low
 - (D) None of these

- 98.** TCP/IP is
 (A) Software
 (B) Hardware
 (C) Network
 (D) None of the above
- 99.** Computer virus is a ____
 (A) Hardware
 (B) Software
 (C) Both A & B
 (D) None of the above
- 100.** Three types of memory chips are RAM, ROM and
 (A) EISA
 (B) RISC
 (C) CD-ROME
 (D) CMOS

5.12 Previous year questions

- 1.** Which of the following statements regarding the features of Information and Communication Technology (ICT) is/are true?
 I) ICT are the main instruments for the creation of computer networks and the applications based on them.
 II) ICT support the spread of information and knowledge, separating the content from the place where it belongs physically.
 III) The digital and virtual nature of most of ICT products allow the expenditure for them to be maximized.
 (A) I and II only
 (B) I and III only
 (C) II and III only
 (D) I, II and III
- 2.** If one GigaByte is equal to 2^{30} Bytes of data storage, then 1024 TeraBytes is equal to ____ bits of data storage.
 (A) 2^{50}
 (B) 2^{53}
 (C) 2^{40}
 (D) 2^{56}
- 3.** The software used to navigate through the web is known as
 (A) Website
 (B) Web Browser
 (C) Internet
 (D) World Wide Web
- 4.** With regard to e-mail, what does Bcc : mean ?
 (A) Blind Computer Communication : - The users specified in the Bcc : field will get the e-mail and see the addresses in the to : and cc : fields.
 (B) Blind Carbon Copy : - The users specified in the Bcc : field will get the e-mail and see the addresses in the to : and cc : fields.
 (C) Blind Computer Communication :- The users specified in the Bcc : field will get the e-mail but it will be an audio file because this is how blind people get e-mail.
 (D) Blind Carbon Copy : The users specified in the Bcc : field will get the e-mail but will not see the addresses in the to : and cc : fields.
- 5.** Random Access Memory (RAM), a form of computer storage, is a ____ memory.
 (A) Non-volatile
 (B) Volatile
 (C) Permanent
 (D) Secondary
- 6.** In Computer Networking, HTTP is referred to as a stateless protocol as servers do not maintain any information about past client requests. HTTP is an acronym for
 (A) Hyper Text Translation Protocol

- (B) Hyper Text Transfer Protocol
(C) High TeraByte Transfer Protocol
(D) Hypervisor Test Translation Protocol
7. ___ is a type of memory circuitry that holds the computer's start-up routine.
(A) RIM (Read Initial Memory)
(B) RAM (Random Access Memory)
(C) ROM (Read Only Memory)
(D) Cache Memory
8. An ASCII is a character-encoding scheme that is employed by personal computers in order to represent various characters, numbers and control keys that the computer user selects on the keyboard. ASCII is an acronym for
(A) American Standard Code for Information Interchange
(B) American Standard Code for Intelligent Information
(C) American Standard Code for Information Integrity
(D) American Standard Code for Isolated Information
9. An unsolicited e-mail message sent to many recipient at once is a
(A) Worm
(B) Virus
(C) Threat
(D) Spam
10. The statement the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer Hardware refers to
(A) Information Technology (IT)
(B) Information and Collaborative Technology (ICT)
(C) Information and Data Technology (IDT)
(D) Artificial Intelligence (AI)
11. If the binary equivalent of the decimal number 48 is 110000, then the binary equivalent of the decimal number 51 is given by
(A) 110011
(B) 110010
(C) 110001
(D) 110100
12. The process of copying files to a CD-ROM is known as
(A) Burning
(B) Zipping
(C) Digitizing
(D) Ripping
13. NMEICT stands for:
(A) National Mission on Education through ICT
(B) National Mission on E-governance through ICT
(C) National Mission on E-commerce through ICT
(D) National Mission on E-learning through ICT
14. Which of the following is an instant messaging application? (a) WhatsApp (b) Google Talk (c) Viber Select the correct answer from the codes given below:
(A) (a) and (b) only
(B) (b) and (c) only
(C) (a) only
(D) (a), (b) and (c)
15. In a Computer a byte generally consists of:
(A) 4 bits
(B) 8 bits
(C) 16 bits
(D) 10 bits

- 16.** Which of the following is not an input device?
(A) Microphone
(B) Keyboard
(C) Joystick
(D) Monitor
- 17.** Which of the following is an open source software?
(A) MS Word
(B) Windows
(C) Mozilla Firefox
(D) Acrobat Reader
- 18.** Which of the following enables us to send the same letter to different persons in MS Word?
(A) Mail join
(B) Mail copy
(C) Mail insert
(D) Mail merge
- 19.** Encoding or scrambling data for transmission across a network is known as
(A) Protection
(B) Detection
(C) Encryption
(D) Decryption
- 20.** Which of the following is not an output device
(A) Printer
(B) Speaker
(C) Monitor
(D) Keyboard
- 21.** Which of the following represents one billion characters
(A) Kilobyte
(B) Megabyte
(C) Gigabyte
(D) Terabyte
- 22.** Which of the following is not open source software
(A) Internet Explorer
(B) Fedora Linux
(C) Open office
(D) Apache HTTP server
- 23.** Which one of the following represents the binary equivalent of the decimal number 25
(A) 10101
(B) 01101
(C) 11001
(D) 11011
- 24.** Which is an instant messenger that is used for chatting
(A) Altavista
(B) MAC
(C) Microsoft Office
(D) Google Talk
- 25.** CSS stands for
(A) Cascading Style Sheets
(B) Collecting Style Sheets
(C) Comparative Style Sheets
(D) Comprehensive Style Sheets
- 26.** MOOC stands for
(A) Media Online Open Course
(B) Massachusetts Open Online Course
(C) Massive Open Online Course
(D) Myrind Open Online Course
- 27.** Binary equivalent of decimal number 35 is
(A) 100011
(B) 110001
(C) 110101
(D) 101011

- 28.** gif, jpg, bmp, png are used as extensions for files which store
(A) Audio data
(B) Image data
(C) Video data
(D) Text data
- 29.** Symbols A-F are used in which one of the following?
(A) Binary number system
(B) Decimal number system
(C) Hexadecimal number system
(D) Octal number system
- 30.** Which one of the following is not a search engine?
(A) Google
(B) Chrome
(C) Yahoo
(D) Bing
- 31.** Digital Empowerment means (i) Universal digit literacy (ii) Universal access to all digital resources (iii) Collaborative digital platform for participative governance. (iv) Probability of all entitlements for individuals through cloud. Choose the correct answer from the codes given below:
(A) (i) and (ii) only
(B) (ii) and (iii) only
(C) (i), (ii) and (iii) only
(D) (i), (ii), (iii) and (iv)
- 32.** The acronym FTP stands for
(A) File Transfer Protocol
(B) Fast Transfer Protocol
(C) File Tracking Protocol
(D) File Transfer Procedure
- 33.** Which one of the following is not a/an image/graphic file format?
(A) PNG
(B) GIF
(C) BMP
(D) GUI
- 34.** The first Web Browser is
(A) Internet Explorer
(B) Netscape
(C) World Wide Web
(D) Firefox
- 35.** When a computer is booting, BIOS is loaded to the memory by
(A) RAM
(B) ROM
(C) CD-ROM
(D) TCP
- 36.** Which one of the following is not the same as the other three?
(A) MAC address
(B) Hardware address
(C) Physical address
(D) IP address
- 37.** Identify the IP address from the following
(A) 300 .215.317.3
(B) 302.215417.5
(C) 202.50.20.148
(D) 202-50-20-148
- 38.** The post-industrial society is designated as
(A) Information society
(B) Technology society
(C) Mediated society
(D) Non-agricultural society
- 39.** The initial efforts for internet based communication was for
(A) Commercial communication
(B) Military purposes
(C) Personal interaction
(D) Political campaigns

- 40.** Internal communication within institutions done through
- LAN
 - WAN
 - EBB
 - MMS
- 41.** Virtual reality provides
- Sharp pictures
 - Individual audio
 - Participatory experience
 - Preview of new films
- 42.** The first virtual university of India came up in
- Andhra Pradesh
 - Maharashtra
 - Uttar Pradesh
 - Tamil Nadu
- 43.** Which of the following is a social network?
- amazon.com
 - eBay
 - gmail.com
 - Twitter
- 44.** The Internet ethical protocol is called
- net protocol
 - netiquette
 - net ethics
 - net morality
- 45.** Commercial messages on the net are identified as
- Net ads
 - Internet commercials
 - Webmercials
 - Viral advertisements
- 46.** Manuel Castelle was the first to use the term
- Internet society
 - Electronic society
 - Network society
 - Telematic society
- 47.** GIF stands for
- Global Information Format
 - Graphics Information Format
 - Graphics Interchange File
 - Graphics Interchange Format
- 48.** Which one of the following is not an Operating System?
- IBM AIX
 - Linux
 - Sun Solaris
 - Firefox
- 49.** A hard disk is divided into tracks which is further subdivided into
- Clusters
 - Sectors
 - Vectors
 - Heads
- 50.** A computer program that translates a program statement by statement into machine languages is called a/an
- Compiler
 - Simulator
 - Translator
 - Interpreter
- 51.** A Gigabyte is equal to
- 1024 Megabytes
 - 1024 Kilobytes
 - 1024 Terabytes
 - 1024 Bytes
- 52.** A Compiler is a software which converts
- characters to bits
 - high level language to machine language
 - machine language to high level language
 - words to bits

- 53.** Virtual memory is
- (A) an extremely large main memory.
 - (B) an extremely large secondary memory.
 - (C) an illusion of extremely large main memory.
 - (D) a type of memory used in super computers.
- 54.** ALU stands for
- (A) American Logic Unit
 - (B) Alternate Local Unit
 - (C) Alternating Logic Unit
 - (D) Arithmetic Logic Unit
- 55.** A Personal Computer uses a number of chips mounted on a circuit board called
- (A) Microprocessor
 - (B) System Board
 - (C) Daughter Board
 - (D) Mother Board
- 56.** Computer Virus is a
- (A) Hardware
 - (B) Bacteria
 - (C) Software
 - (D) None of these
- 57.** Which one of the following is correct?
- (A) $(17)_{10} = (17)_{16}$
 - (B) $(17)_{10} = (17)_8$
 - (C) $(17)_{10} = (10111)_2$
 - (D) $(17)_{10} = (10001)_2$
- 58.** The file extension of MS-Word document in Office 2007 is ____
- (A) .pdf
 - (B) .doc
 - (C) .docx
 - (D) .txt
- 59.** ____ is a protocol used by e-mail clients to download e-mails to your computer.
- (A) TCP
 - (B) FTP
 - (C) SMTP
 - (D) POP
- 60.** TCP/IP is necessary if one is to connect to the
- (A) Phone lines
 - (B) LAN
 - (C) Internet
 - (D) a Server
- 61.** Each character on the keyboard of computer has an ASCII value which stands for
- (A) American Stock Code for Information Interchange
 - (B) American Standard Code for Information Interchange
 - (C) African Standard Code for Information Interchange
 - (D) Adaptable Standard Code for Information Change
- 62.** Which of the following is not a programming language ?
- (A) Pascal
 - (B) Microsoft Office
 - (C) Java
 - (D) C++
- 63.** Minimum number of bits required to store any 3 digit decimal number is equal to
- (A) 3
 - (B) 5
 - (C) 8
 - (D) 10
- 64.** Internet explorer is a type of
- (A) Operating System
 - (B) Compiler
 - (C) Browser
 - (D) IP address

- 65.** POP3 and IMAP are e-mail accounts in which
- (A) One automatically gets one's mail everyday
 - (B) One has to be connected to the server to read or write one's mail
 - (C) One only has to be connected to the server to send and receive email
 - (D) One does not need any telephone lines
- 66.** Which of the following operating system is used on mobile phones?
- (A) Windows Vista
 - (B) Android
 - (C) Windows XP
 - (D) All of the above
- 67.** High level programming language can be converted to machine language using which of the following?
- (A) Oracle
 - (B) Compiler
 - (C) Mat lab
 - (D) Assembler
- 68.** HTML is used to create
- (A) machine language program
 - (B) high level program
 - (C) web page
 - (D) web server
- 69.** The term DNS stands for
- (A) Domain Name System
 - (B) Defense Nuclear System
 - (C) Downloadable New Software
 - (D) Dependent Name Server
- 70.** IPv4 and IPv6 are addresses used to identify computers on the internet. Find the correct statement out of the following:
- (A) Number of bits required for IPv4 address is more than number of bits required for IPv6 address.
 - (B) Number of bits required for IPv4 address is same as number of bits required for IPv6 address.
 - (C) Number of bits required for IPv4 address is less than number of bits required for IPv6 address.
 - (D) Number of bits required for IPv4 address is 64.
- 71.** The octal number system consists of the following symbols :
- (A) 0 -7
 - (B) 0- 9
 - (C) 0 - 9, A- F
 - (D) None of the above
- 72.** The binary equivalent of $(-19)_{10}$ in signed magnitude system is
- (A) 11101100
 - (B) 11101101
 - (C) 10010011
 - (D) None of these
- 73.** DNS in internet technology stands for
- (A) Dynamic Name System
 - (B) Domain Name System
 - (C) Distributed Name System
 - (D) None of these
- 74.** HTML stands for
- (A) Hyper Text Markup Language
 - (B) Hyper Text Manipulation Language
 - (C) Hyper Text Managing Links
 - (D) Hyper Text Manipulating Links
- 75.** Which of the following is type of LAN ?
- (A) Ethernet
 - (B) Token Ring
 - (C) FDDI
 - (D) All of the above

- 76.** Which of the following statements is true ?
- (A) Smart cards do not require an operating system.
 - (B) Smart cards and PCs use some operating system.
 - (C) COS is smart card operating system.
 - (D) The communication between reader and card is in full duplex mode.
- 77.** Which one of the following is not an Internet Service Provider (ISP)?
- (A) MTNL
 - (B) BSNL
 - (C) ERNET India
 - (D) Infotech India Ltd.
- 78.** 1 GB is equal to
- (A) 2^{30} bits
 - (B) 2^{30} bytes
 - (C) 2^{20} bits
 - (D) 2^{20} bytes
- 79.** The set of computer programs that manage the hardware/software of a computer is called
- (A) Compiler system
 - (B) Operation system
 - (C) Operating system
 - (D) None of these
- 80.** S/MIME in Internet technology stands for
- (A) Secure Multipurpose Internet Mail Extension
 - (B) Secure Multimedia Internet Mail Extension
 - (C) Simple Multipurpose Internet Mail Extension
 - (D) Simple Multimedia Internet Mail Extension
- 81.** Which number system is usually followed in a typical 32-bit computer?
- (A) 2
 - (B) 8
 - (C) 10
 - (D) 16
- 82.** Which one of the following is an example of Operating System?
- (A) Microsoft Word
 - (B) Microsoft Excel
 - (C) Microsoft Access
 - (D) Microsoft Windows
- 83.** Which one of the following represents the binary equivalent of the decimal number 23?
- (A) 01011
 - (B) 10111
 - (C) 10011
 - (D) None of the above
- 84.** Which one of the following is different from other members?
- (A) Google
 - (B) Windows
 - (C) Linux
 - (D) Mac
- 85.** Where does a computer add and compare its data?
- (A) CPU
 - (B) Memory
 - (C) Hard disk
 - (D) Floppy disk
- 86.** Computers on an internet are identified by
- (A) e-mail address
 - (B) street address
 - (C) IP address
 - (D) None of the above

- 87.** Which of the following is not related to information security on the Internet?
- (A) Data Encryption
 - (B) Water marking
 - (C) Data Hiding
 - (D) Information Retrieval
- 88.** Which is the largest unit of storage among the following?
- (A) Terabyte
 - (B) Megabyte
 - (C) Kilobyte
 - (D) Gigabyte
- 89.** bit stands for
- (A) binary information term
 - (B) binary digit
 - (C) binary tree
 - (D) Bivariate Theory
- 90.** Which one of the following is not a linear data structure?
- (A) Array
 - (B) Binary Tree
 - (C) Queue
 - (D) Stack
- 91.** Which one of the following is not a network device?
- (A) Router
 - (B) Switch
 - (C) Hub
 - (D) CPU
- 92.** A compiler is used to convert the following to object code which can be executed
- (A) High-level language
 - (B) Low-level language
 - (C) Assembly language
 - (D) Natural language
- 93.** What do you need to put your web pages on the www?
- (A) a connection to internet
 - (B) a web browser
 - (C) a web server
 - (D) all of the above
- 94.** Which was the first company to launch mobile phone services in India?
- (A) Essar
 - (B) BPL
 - (C) Hutchison
 - (D) Airtel
- 95.** Chandrayan I was launched on 22nd October, 2008 in India from:
- (A) Bangalore
 - (B) Sri Harikota
 - (C) Chennai
 - (D) Ahmedabad
- 96.** What is blog?
- (A) Online music
 - (B) Intranet
 - (C) A personal or corporate website in the form of an online journal
 - (D) A personal or corporate Google search
- 97.** Which is not online Indian Matrimonial website?
- (A) www.jeevansathi.com
 - (B) www.bharatmatrimony.com
 - (C) www.shaadi.com
 - (D) www.u.k.singlemuslim.com
- 98.** The accounting software 'Tally' was developed by:
- (A) HCL
 - (B) TCS
 - (C) Infosys
 - (D) Wipro

- 99.** Errors in computer programmes are called:
- (A) Follies
 - (B) Mistakes
 - (C) Bugs
 - (D) Spam
- 100.** HTML is basically used to design:
- (A) Web-page
 - (B) Web-site
 - (C) Graphics
 - (D) Tables and Frames
- 101.** 'Micro Processing' is made for:
- (A) Computer
 - (B) Digital System
 - (C) Calculator
 - (D) Electronic Goods
- 102.** Information, a combination of graphics, text, sound, video and animation is called:
- (A) Multiprogramme
 - (B) Multifacet
 - (C) Multimedia
 - (D) Multiprocess
- 103.** WYSIWYG - describes the display of a document on screen as it will actually print:
- (A) What you state is what you get
 - (B) What you see is what you get
 - (C) What you save is what you get
 - (D) What you suggest is what you get
- 104.** Which of the following is not a Computer language?
- (A) PASCAL
 - (B) UNIX
 - (C) FORTRAN
 - (D) COBOL
- 105.** A key-board has at least:
- (A) 91 keys
 - (B) 101 keys
 - (C) 111 keys
 - (D) 121 keys
- 106.** An E-mail address is composed of:
- (A) two parts
 - (B) three parts
 - (C) four parts
 - (D) five parts
- 107.** Corel Draw is a popular:
- (A) Illustration programme
 - (B) Programming language
 - (C) Text programme
 - (D) None of the above
- 108.** www represents:
- (A) who what and where
 - (B) weird wide web
 - (C) word wide web
 - (D) world wide web
- 109.** CD ROM stands for:
- (A) Computer Disk Read Only Memory
 - (B) Compact Disk Read Over Memory
 - (C) Compact Disk Read Only Memory
 - (D) Computer Disk Read Over Memory
- 110.** The 'brain' of a computer which keeps peripherals under its control is called:
- (A) Common Power Unit
 - (B) Common Processing Unit
 - (C) Central Power Unit
 - (D) Central Processing Unit
- 111.** Data can be saved on backing storage medium known as :
- (A) Compact Disk Recordable
 - (B) Computer Disk Rewritable
 - (C) Compact Disk Rewritable
 - (D) Computer Data Rewritable

- 112.** RAM means:
- (A) Random Access Memory
 - (B) Rigid Access Memory
 - (C) Rapid Access Memory
 - (D) Revolving Access Memory
- 113.** On the keyboard of computer each character has an "ASCII" value which stands for:
- (A) American Stock Code for Information Interchange
 - (B) American Standard Code for Information Interchange
 - (C) African Standard Code for Information Interchange
 - (D) Adaptable Standard Code for Information Change
- 114.** Which part of the Central Processing Unit (CPU) performs calculation and makes decisions:
- (A) Arithmetic Logic Unit
 - (B) Alternating Logic Unit
 - (C) Alternate Local Unit
 - (D) American Logic Unit
- 115.** "Dpi" stands for:
- (A) Dots per inch
 - (B) Digits per unit
 - (C) Dots pixel inch
 - (D) Diagrams per inch
- 116.** The process of laying out a document with text, graphics, headlines and photographs is involved in
- (A) Deck Top Publishing
 - (B) Desk Top Printing
 - (C) Desk Top Publishing
 - (D) Deck Top Printing
- 117.** Transfer of data from one application to another line is known as:
- (A) Dynamic Disk Exchange
 - (B) Dodgy Data Exchange
 - (C) Dogmatic Data Exchange
 - (D) Dynamic Data Exchange
- 118.** LAN stands for:
- (A) Local And National
 - (B) Local Area Network
 - (C) Large Area Network
 - (D) Live Area Network
- 119.** Which of the following statement is correct?
- (A) Modem is a software
 - (B) Modem helps in stabilizing the voltage
 - (C) Modem is the operating system
 - (D) Modem converts the analog signal into digital signal and vice-versa
- 120.** Which of the following is the appropriate definition of a computer?
- (A) Computer is a machine that can process information.
 - (B) Computer is an electronic device that can store, retrieve and process both qualitative and quantitative data quickly and accurately.
 - (C) Computer is an electronic device that can store, retrieve and quickly process only quantitative data.
 - (D) Computer is a machine that can store, retrieve and process quickly and accurately only qualitative information
- 121.** Information and Communication Technology includes:
- (A) On line learning
 - (B) Learning through the use of EDUSAT
 - (C) Web Based Learning
 - (D) All the above
- 122.** Which of the following is the appropriate format of URL of e-mail?
- (A) www_mail.com
 - (B) www@mail.com
 - (C) WWW@mail.com
 - (D) www.mail.com

- 123.** Using websites to pour out one's grievances is called:
- (A) cyber venting
 - (B) cyber ranting
 - (C) web hate
 - (D) web plea
- 124.** In web search, finding a large number of documents with very little relevant information is termed:
- (A) poor recall
 - (B) web crawl
 - (C) poor precision rate
 - (D) poor web response
- 125.** The concept of connect intelligence is derived from:
- (A) virtual reality
 - (B) fuzzy logic
 - (C) Bluetooth technology
 - (D) value added networks
- 126.** Use of an ordinary telephone as an Internet appliance is called:
- (A) voice net
 - (B) voice telephone
 - (C) voice line
 - (D) voice portal
- 127.** Video transmission over the Internet that looks like delayed livecasting is called:
- (A) virtual video
 - (B) direct broadcast
 - (C) video shift
 - (D) real-time video
- 128.** Line access and avoidance of collision are the main functions of:
- (A) the CPU
 - (B) the monitor
 - (C) network protocols
 - (D) wide area networks
- 129.** In the hypermedia database, information bits are stored in the form of:
- (A) signals
 - (B) cubes
 - (C) nodes
 - (D) symbols
- 130.** Communications bandwidth that has the highest capacity and is used by microwave, cable and fibre optics lines is known as:
- (A) hyper-link
 - (B) broadband
 - (C) bus width
 - (D) carrier wave
- 131.** An electronic bill board that has a short text or graphical advertising message is referred to as:
- (A) bulletin
 - (B) strap
 - (C) bridge line
 - (D) banner
- 132.** Which of the following is not the characteristic of a computer?
- (A) computer is an electrical machine
 - (B) computer cannot think at its own
 - (C) computer processes information error free
 - (D) computer can hold data for any length of time
- 133.** Which of the following statements is NOT correct ?
- (A) Computer is capable of processing only digital signal
 - (B) Computer is capable of analysing both quantitative and qualitative data
 - (C) Appropriate software is required for processing the data
 - (D) Computer is capable of processing digital as well as analog signals

- 134.** ICT stands for :
- (A) International Communication Technology
 - (B) Intera Common Terminology
 - (C) Information and Communication Technology
 - (D) Inter connected Terminals
- 135.** Which of the following is the appropriate definition of Information Technology?
- (A) Information Technology refers to the use of hardware and software for processing information
 - (B) Information Technology refers to the use of hardware and software for distribution of useful information
 - (C) Information Technology refers to the use of hardware and software for storage, retrieval, processing and distributing information of many kinds.
 - (D) Information Technology refers to the use of principles of Physical sciences and Social sciences for processing of information of many kinds.
- 136.** Which of the following statements is correct?
- (A) Virus improves the speed of processing information through computer
 - (B) Internet does not allow the virus to spread
 - (C) Virus is a part of software
 - (D) Virus is an operating system
- 137.** Which of the following is correct statement?
- (A) Computers can be used for diagnosing the difficulty of a student in learning a subject
 - (B) Psychological testing can be done with the help of computer provided software is available
 - (C) A set of instructions is called a programme
 - (D) All the above

6. Higher Education system

India is most popular country for higher education system. India's higher education system is the third largest in the world, after China and the United States. Higher education of india is one of the most developed in the entire world. Its scenario is improving in quantitative and qualitaive terms. Students from various parts of the world are coming to india for achieving higher education. Some institutions of India, such as:

- Indian Institute of Technology (IITs) and (IISc)
- All India institute of Medical Sciences (AIIMS)
- Indian Institute of Management (IIMs)

Have been globally acclaimed for their standard of education.

Following are the important bodies, which plays an important role in higher education system in India.

1. University Grants commission(UGC)
2. all India Council for technical education(AICTE)
3. Distance Education Council (DEC)
4. Indian Council for Agriculture Research (ICAR)
5. Bar Council of India (BCI)
6. National Council for Teacher Education (NCTE)
7. Rehabilitation Council of India (RCI)
8. Medical Council of India (MCI)
9. Pharmacy Council of India (PCI)
10. Indian Nursing Council (INC)
11. Dentist Council of India (DCI)
12. Central Council of Homeopathy (CCH)
13. Central Council of Indian Medicine (CCIM)

Central government is responsible to take the policies related to the higher education. It also gives different grant to the Central universities. Whether an educational system will be deemed or not is also decided by central government on the recommendation of the UGC. At present, there are 16 Central universities in the country.

Type of Institutions	Numbers
Central Universities	47
State Universities	275
Institutions established under States Legislature Act	5
Institution deemed to be University	96
Institutions of National Importance	13
Research Institutes	136
Total	543

Table 6.1: Number of Institutions

Definition 6.1 Creating a country imbued with a scientific culture was Jawaharlal Nehru's aim. One such initiative was the All-India Institute of Medical Sciences as an institution of national importance by an Act of Parliament and has set the pace for medical education and research in Southeast Asia .

6.1 Skeleton of Indian education system

In this section we briefly discuss about the Indian education system. First, we will talk about higher education in India. Following four society have power to give higher education.

1. University
2. Institute of Technology
3. College
4. Open University

One can get degree from education system. Following are degrees, one may acquire after school leaving.

1. Higher Secondary School Certificate
2. Secondary School Certificate
3. Diploma
4. Bachelor's Degree
5. Postgraduate Diploma
6. Master's Degree
7. Master of Philosophy
8. Post-Master Degree
9. Doctorate
10. Doctor of Laws
11. Doctor of Literature
12. Doctor of Science

6.2 Ancient education system in India

From education point of view India was very rich country at ancient times too. Following system were widely used in ancient India.

6.2.1 Gurukul system

Gurukul (ashram) was a type of school in India, residential in nature, with pupils living in proximity to the teacher (guru). In a gurukul, students would reside together as equals, irrespective of their social standing, learnt from the guru and distribute work in themselves to help the guru in his day-to-day life. At the end of studies, pupil would be ready to offer gurudakshina (one time fees) to the guru. The gurudakshina is a traditional gesture of acknowledgment, respect and thanks.

Definition 6.2 In India the Guru or the teacher is held in high esteem. Indeed, there is an understanding that if the devotee were presented with the guru and God, first he would pay respect to the guru, since the guru had been instrumental in leading him to God.

6.2.2 Vedic University

Nalanda is one of the great Vedic university in India. Nalanda is the name of an ancient university in Bihar, India which was a Buddhist center of learning from 427 CE (AD) to 1197 CE (AD). It has been called as “one of the first great universities” in recorded history. There were universities like Taxila, Ujjain, Kanchi etc. for medicine and learning including mathematics and astronomy.

Definition 6.3 In compiling the vedic mantras, VED VYASA edited them into four books, the Rig-Veda, the Yajur-Veda, the Sama-Veda, and the Atharva-Veda

The Vedas are a large body of texts originating in ancient India. Composed in Vedic Sanskrit, the texts constitutes the oldest layer of Sanskrit literature and the oldest scriptures of Hinduism. Scholars have determined that the Rig Veda, the oldest of the four Vedas, was composed about 1500 B.C.

6.2.3 British and Indian Education system

Since English was increasingly being employed as the language of instruction, during 1852-1853 petitions were sent to the British Parliament in support of both establishing and adequately funding university education in India which resulted in the Education Dispatch of July 1854 which helped in shaping the Indian education system . Educational reforms in the early 20th century led towards the nationalisation of many universities.

Definition 6.4 Britishers did a lot to establish good and healthy education system in India.

1. Established a Department of Public Instruction in each province of British India.
2. Established teacher-training schools for all levels of instruction.
3. Increased the number of Government colleges ,vernacular schools and high-schools .
4. The Department of Public Instruction was in place by 1855.
5. By 1857 a number of universities were established modeled on the University of London.

Education of Indians had become a topic of interest among East India Company officials. The policy's goal was

1. to advance knowledge of Indians and
2. to employ that knowledge in the East India Company

6.2.4 Patha Bhawan

Rabindranath started an open-air school known as the Patha Bhavan at Shantiniketan that gradually developed into an international university named Visva Bharati where the cultures of the East and the West met in common fellowship and thereby strengthening the fundamental condition of world peace.

PATHA BHAVAN, the school of his ideals, whose central premise was that learning in a natural environment would be more enjoyable and fruitful.

The main attractions of Shantiniketan include the various buildings of the Visva-Bharati campus. Chinese faculty, College of Arts and Crafts, Patha Bhavan (the school), School of Dance and Music and the prayer hall.

Some of the famous students of Visva-Bharati include India's former Prime Minister Ms Indira Gandhi , world famous film director Mr. Satyajit Ray and Nobel Laureate Amartya Sen.

6.3 Post Independence education

India's first education minister recommended strong central government control over education throughout the country, with a uniform educational system and introduced right to education.

Definition 6.5 Every child between the ages of 6 to 14 years has the right to free and compulsory education. The government schools shall provide free education to all the children. Private schools shall admit at least 25% of the children in their schools without any fee.

The Indian government lays great emphasis on primary education up to the age of fourteen years (referred to as Elementary Education in India.) The Indian government has also banned child labour in order to ensure that any children do get an opportunity to nurture. Education has also been made free for children for six to 16 years of age. The District Primary Education Programme (DPEP) was launched in 1994 with an aim to universalize primary education in India by reforming and vitalizing the existing primary education system

6.3.1 NCERT

The NCERT was established in 1961. It functions as a resource centre in the field of school education and teacher education. Publication of school textbooks and other educational material like teachers' guides/manuals etc. are its major functions.

Definition 6.6 NCERT is an autonomous body fully funded by the Ministry of Human Resource and Development (MHRD)

There is a common educational structure (10+2+4) followed all over the country. Its similar to the USA but unlike to the one being followed in the UK

6.3.2 VES

Vocational education is imparted through Industrial Training Institutes (ITIs) and polytechnics.

Definition 6.7 In the Words of Indian Government:

We give them roots, we give them wings
And great joys from, little things,
A hope that they will soar ,
A hope that they will try,
We are sure that one day ,
Our children will learn to fly.

6.4 Statutory body and their functions

The origin of the Indian Education Department dates back to pre-Independence days when for the first time a separate Department was created in 1910 to look after education. However, soon after India achieved its Independence on 15th August, 1947, a full fledged Ministry of Education was established on 29th August 1947. The nomenclature and responsibilities of the Education Department has undergone changes from time to time since Independence

6.4.1 University Grants Commission (UGC)

University Grants Commission (UGC) established by UGC Act, 1956, Ministry of HRD .

Statutory Mandate Coordination and determination of standards in higher education and research in the country

Primary Function Release of grants to universities and colleges

Other Functions Recognition of Universities and colleges (including eligibility for central grants) specification of degrees; Minimum standards of instruction, common pay scales, common facilities and institutional accreditation through NAAC

6.4.2 Distance Education Council (DEC)

Distance Education Council (DEC) established by Sec. 25 of IGNOU Act, 1985, Ministry of HRD .

Statutory Mandate Promotion, coordination and determination of standards of the open universities and distance education systems in the country.

Primary Function Release of grants to open universities and correspondence course institutes

Other Functions Initiated assessment and accreditation activities

6.4.3 All India Council for Technical Education

All India Council for Technical Education (AICTE) established by AICTE Act, 1987, Ministry of HRD,

Statutory Mandate Planning and coordinated development of technical education in the country

Primary Function Approval of degree and diploma programs in engineering, architecture, pharmacy and hotel management

Other Functions Funding for institutional and faculty development, pay scales and qualifications of teachers accreditation through NAAC

6.4.4 Medical Council of India (MCI)

Medical Council of India (MCI) established by MCI Act, 1953, Ministry of Health,

Statutory Mandate To establish standards in medical education and to define medical qualifications in India and abroad

Primary Function Registration of medical practitioners and recognition of medical institutions

Other Functions Eligibility criteria for admissions; exam. for recognition of foreign qualifications for practice in India.

6.4.5 The Council of Architecture

The Council of Architecture (COA) established by The Architects Act, 1972, Ministry of Urban Development.

Statutory Mandate Regulate profession and practice of architects and town planners in India

Primary Function Registration of architects, maintaining standards of education, recognized qualifications and standards of practice

Other Functions Maintaining the register of architects and make recommendations with regard to recognition and de-recognition of a qualification.

6.4.6 Indian Nursing Council

Indian Nursing Council (INC) established by the INC Act, 1947, Ministry of Health.

Statutory Mandate Uniform standards of training for Nurses

Primary Function Accepts qualifications awarded by universities within and outside India

Other Functions Collection and compilation of data relating to nurses, midwives, health visitors.

6.4.7 Rehabilitation Council of India

Rehabilitation Council of India (RCI) established by RCI Act, 1992, Ministry of Social Justice

Statutory Mandate Standardize and regulate the training of personnel and professions in the field of rehabilitation and special education.

Primary Function Recognition of institutions for physiotherapy and related fields.

Other Functions Registration of professionals, assessment and accreditations; promotion of barrier free environment.

6.4.8 National Council For Teacher Education

National Council For Teacher Education (NCTE), NCTE Act, 1993

Statutory Mandate Planned and Coordinated development of the teacher education in the country.

Primary Function Recognition of teacher education institutions.

Other Functions Lay down norms and standards

6.4.9 Indian Council for Agricultural Research

Indian Council for Agricultural Research (ICAR), Ministry of Agriculture . It is not a statutory body

Statutory Mandate Coordinate agricultural research and education

Primary Function Coordinate and fund agricultural education and research in 30 state and 1 central and several deemed universities for agriculture.

Other Functions Accredite agriculture universities, hold joint admission tests.

6.4.10 Bar Council of India

Bar Council of India (BCI) established by The Advocates Act, 1962, Ministry of Law

Statutory Mandate Lay down standards of professional conduct and standards of legal education.

Primary Function Lay down standards of professional conduct and standards of legal education.

Other Functions Listing of members of bar; listing of foreign universities whose qualifications are approved in India.

There are various Educational Statutory bodies in India, these are namely:

1. All India Council for Technical Education (AICTE)
2. All India Council of Technical Education (AICTE)
3. Central Council of Homeopathy (CCH)
4. Central Council of Indian Medicine (CCIM)
5. Central Board of Secondary Education (CBSE)
6. Central Hindi Directorate
7. Central Institute of Educational Technology (CIET)
8. Central Institute of English and Foreign Languages (CIEFL)
9. Central Institute of Indian Languages (CIIL)
10. Central Tibetan Schools Administration (CTSA)
11. Commission for Scientific and Technical Terminology (CSTT)

12. Council of Architecture (COA)
13. Copyright Office, India
14. Distance Education Council (DEC)
15. Dentist Council of India (DCI)
16. Educational Consultants India Limited (EDCIL)
17. Education Support in India
18. Indian Council of Philosophical Research (ICPR)
19. Indian Council of Social Science Research (ICSSR)
20. Indian Institute of Advanced Study (IIAS)
21. Indian Council of Historical Research (ICHR)
22. Kendriya Hindi Sansthan
23. Kendriya Vidyalaya Sangathan (KVS)
24. Medical Council of India (MCI)
25. National Assessment and Accreditation Council (NAAC)
26. National Bal Bhavan
27. National Book Trust
28. National Council for Promotion of Sindhi Language (NCPSL)
29. National Council of Educational Research and Training (NCERT)
30. National Institute of Educational Planning and Administration (NIEPA)
31. National Institute of Open Schooling (NIOS)
32. National Institute of Pharmaceutical Education and Research (NIPER)
33. National Institute of Technical Teachers' Training and Research (NITTTR)
34. National Commission for Minority Educational Institutions (NCMEI)
35. Navodaya Vidyalaya Samiti (NVS)
36. National Council for Teacher Education (NCTE)
37. National Literacy Mission
38. Oversight Committee
39. Pharmacy Council of India (PCI)
40. Rehabilitation Council of India (RCI)
41. Rashtriya Sanskrit Sansthan
42. Sakshat - Education Portal, Government of India
43. Sarva Shiksha Abhiyan (SSA)
44. State Resource Centre for Non-Formal Education, Chennai
45. University Grants Commission (UGC)

6.5 Quality and Quality Assessment

In order to evaluate performance of an institution and bring about a measure of accountability a mechanism of accreditation has been developed by UGC. This is an autonomous council under UGC called National Accreditation and Assessment Council (NAAC) with a purpose to carry out periodic assessment of universities and colleges. NAAC has evolved a methodology of assessment which involves self-appraisal by each university/college and an assessment of the performance by an expert committee.

Similarly, for technical education, AICTE has established its own accreditation mechanism for its institutions through the National Board of Accreditation (NBA).

NAAC has identified the following seven criteria to serve as the basis of assessment procedures:

1. Curricular Aspects
2. Teaching-learning and Evaluation
3. Research, Consultancy and Extension
4. Infrastructure and Learning Resources
5. Student Support and Progression
6. Governance and Leadership
7. Innovative practice

6.6 Higher Education : Some Concerns

India has significant advantages in the 21st century knowledge race:

1. It has a large higher education sector -the third largest in the world in student numbers, after China and the United States.
2. It uses English as a primary language of higher education and research.
3. It has a long academic tradition. Academic freedom is respected.
4. There are a small number of high quality institutions, departments, and centres that can form the basis of quality sector in higher education.
5. The fact that the States, rather than the Central Government, exercise major responsibility for higher education creates a rather cumbersome structure, but the system allows for a variety of policies and approaches.

6.7 Elementary Education in India

Education is important not only for development of one's personality, but also for the sustained growth of nation. It is the foundation on which the development of every citizen and the nation as a whole hinges. The quality of elementary education in India has also been a major cause of worry for government

6.7.1 Sarva Siksha Abhiyan

The current scheme for universalization of Education for All is the SARVA SHIKSHA ABHIYAN which is one of the largest education initiatives in the world. After the District Primary Education Programme (DPEP) of 1994, the govt. has now launched the "Sarva Shiksha Abhiyan" or SSA. Sarva Shiksha Abhiyan was launched in 2001 to universalize and improve the quality of elementary education in India. It has set 2007 as the deadline for providing primary education in India and 2010 as the deadline for providing useful and relevant elementary education to all children in the 6 to 14 age group.

Definition 6.8 Every child between the ages of 6 to 14 years has the right to free and compulsory education. The government schools shall provide free education to all the children. Private schools shall admit at least 25% of the children in their schools without any fee.

6.7.2 Education in Urban and Rural areas

Despite all the efforts of the government, universalization of education in India remains a distant dream. While the literacy rate is 65.38% according to 2001 census, the female literacy rate is 54.16%. While 80.3% urban people are literate, 59.4% of the rural population is literate.

6.7.3 School education

Schooling system in India is a two tier system. First 10 years is a general study followed by two years of senior secondary education. The primary education system is also two tier system. The first five years is the primary stage and the coming next three years is upper primary stage or middle school.

6.7.4 Secondary education system

Secondary education can be instrumental in shaping and directing a child for his bright future. Secondary education serves as a link between primary and higher education. A child's future depends a lot on type of education the child receives. Significant feature of India's secondary school system is the emphasis on inclusion of the disadvantaged sections of the society. Another feature of India's secondary school system is its emphasis on profession based vocational training to help students attain skills for finding a vocation of his/her choosing.

The Secondary education is supported by the following organisations under the administrative control of the Union Department of Education: Some of the institutes are:

- National Council of Educational Research and Training (NCERT)
- Central Board of Secondary Education (CBSE)
- National Institute of Open Schooling (NIOS)

The National Policy on Education (NPE), 1986, has provided for environment awareness, science and technology education, and introduction of traditional elements such as yoga into the Indian secondary school system

Definition 6.9 NCERT is an autonomous body fully funded by the Ministry of Human Resource and Development (MHRD). The NCERT was established in 1961. It functions as a resource centre in the field of school education and teacher education. Publication of school textbooks and other educational material like teachers' guides/manuals etc. are its major functions. It aims at making environmental education an integral part of curriculum in school education.

6.7.5 Central board of secondary education

The CBSE was set up by a special resolution of the Government of India in 1929 at Ajmer with a view to play a useful role in the field of Secondary Education and to raise its standard.

The Main functions of the board are: to conduct Class X and XII examinations and grant certificates, to prescribe courses of instructions, prescribe conditions for examinations, and to affiliate institutions for the purpose of examinations. The CBSE also conducts all India entrance examinations at the under graduate level for pre-medical/pre-dental, engineering and architecture courses.

Definition 6.10 The CBSE has constantly been engaged in process of curriculum design, in-service teacher empowerment programmes and development of textual material.

CBSE has introduced CONTINUOUS AND COMPREHENSIVE EVALUATION (CCE) at the secondary level. The scheme of CCE discourages mechanical testing. It envisages employment of variety of tools and techniques for assessment in informal and formal settings which are more interesting, relevant and meaningful and involve learners for greater participation and learning.

It is a system of school based assessment that covers all aspects of student's development. It emphasizes two fold objectives. Continuity in evaluation and assessment of broad based learning. CCE will cover the scholastic and co scholastic areas of school education.

6.8 American Education system

American education system requires that students complete 12 years of primary and secondary education prior to attending university or college. This may be accomplished either at public (or government-operated) schools, or at private schools. These 12 years of schooling (or their equivalent) may also be completed outside the USA, thus giving foreign students the opportunity to pursue the benefits of the American education system.

6.8.1 Bachelors in USA

A candidate who has successfully completed class XII is eligible for the Bachelors Programme or Under Graduate Study in USA. The bachelors degree or under graduate study usually lasts for 4 years. In some cases accelerated Programme can be completed in three years, while some professional fields require five years.

The decision of the major's to be taken is necessary only after the 2nd or Sophomore year. Many colleges give an Associate degree after the sophomore year or second year of a Bachelor's degree. It is the degree awarded after either a college transfer or a 'terminal', One to three year programme providing training for a specific occupation.

6.8.2 Masters in USA

Masters degree is the first Graduate degree in the liberal arts and Sciences and certain professional fields requiring 30 credit hours of full-time study within a year or 2 years. You can get your Master's degree by taking 8 courses of subjects with 3 credits each plus a thesis of 6 hours credit or 10 courses of subjects with 3 credits each without the thesis. Usually masters degree include M.S and M.A degrees

6.9 National policy of education

In our national perception, Education refines sensitivities and perceptions that contribute to national cohesion, a scientific temper and independence of mind and spirit - thus furthering the goals of socialism, secularism and democracy enshrined in our Constitution. The government is committed to providing education through mainstream schools for children with disabilities. The need for inclusive education arises precisely because it is now well understood that most children with disabilities can, with motivation and effort on the part of teaching institutions, become an integral part of those institutions. There is a common educational structure (10+2+3) followed all over the country.

Education level	Years
Pre primary	(FOR 1 YEAR)
Primary	(GRADE 1-5)
Middle	(GRADE 6-8)
Secondary	(GRADE 9-10)
Senior Secondary	(GRADE 11-12)

6.10 Fashion Technology

India which has always been a centre for the textile and garment trade. Now the fashion industry has become so specialized that it encompasses a vast field of studies in design, concept management, design production management, quality control, planning, fabric design, printing, fashion accessory design, fashion merchandising, textile science, colour mixing, marketing and so on. National Institute of Fashion Technology was set up in 1986 under the aegis of the Ministry of Textiles, Government of India. It has emerged as the premier Institute of Design, Management and Technology, developing professionals for taking up leadership positions in fashion business in the emerging global scenario.

Definition 6.11 The online projects encourage our students to collaborate ,cooperate and communicate with the students all over the world. This use of cyber space has led to the globalisation of education.

6.11 University grants commission

The University Grants Commission (UGC) of India is a statutory body set up by the Indian Union government in 1956, and is charged with coordination, determination and maintenance of standards of higher education. It provides recognition to universities in India, and disburses funds to such recognized universities and colleges. Its headquarters is in New Delhi, and six regional centres in Pune, Bhopal, Kolkata, Hyderabad, Guwahati and Bangalore.

Definition 6.12

1. encourages contact between students and faculty,
2. develops reciprocity and cooperation among students,
3. encourages active learning,
4. gives prompt feedback,
5. emphasizes time on task,
6. communicates high expectations, and
7. respects diverse talents and ways of learning

A Central University or a Union University in India is established by Act of Parliament and are under the purview of the Department of Higher Education in the Union Human Resource Development Ministry. In general, universities in India are recognized by the University Grants Commission (UGC), which draws its power from the University Grants Commission Act, 1956. The types of universities controlled by the UGC include:

State universities are run by the state government of each of the states and territories of India, and are usually established by a local legislative assembly act.

Deemed university or Deemed-to-be-University, is a status of autonomy granted by the Department of Higher Education on the advice of the UGC, under Section 3 of UGC Act, 1956.

Private universities are approved by the UGC. They can grant degrees but they are not allowed to have off-campus affiliated colleges.

Apart from the above universities, other institutions are granted the permission to autonomously award degrees.

6.11.1 Funding Agency

Government or Non-Government organization providing monetary grant for research. Following are the major funding agencies in India

1. University Grants Commission (UGC), New Delhi. www.ugc.ac.in
2. Indian Council of Social Science Research (ICSSR), New Delhi www.icssr.org
3. Department of Science and Technology (DST) New Delhi . www.dst.gov.in
4. Council of Scientific and Industrial Research (CSIR), New Delhi. www.csir.res.in
5. Department of Atomic Energy (DAE); BRNS. www.barc.ernet.in
6. Department of Biotechnology (DBT), New Delhi. www.dbtindia.nic.in
7. Department of Non Conventional Energy Sources (DNES), New Delhi. www.mnre.gov.in
8. Defence Research and Development Organization (DRDO). www.drdo.nic.in
9. Indian Council of Agricultural Research. www.icar.org.in
10. Ministry of Environment & Forest. www.envfor.nic.in/funding

6.12 Central universities

A Central University or a Union University in India is established by Act of Parliament and are under the purview of the Department of Higher Education in the Union Human Resource Development Ministry. In general, universities in India are recognised by the University Grants Commission (UGC), which draws its power from the University Grants Commission Act, 1956. In addition, 15 Professional Councils are established, controlling different aspects of accreditation and coordination. Central universities, in addition, are covered by the Central Universities Act, 2009, which regulates their purpose, powers governance etc., and established 12 new universities. The list of central universities published by the UGC includes 47 central universities as on 20 May 2015.

The types of universities controlled by the UGC include:

- I State universities are run by the state government of each of the states and territories of India, and are usually established by a local legislative assembly act.
- II Deemed university, or “Deemed-to-be-University”, is a status of autonomy granted by the Department of Higher Education on the advice of the UGC, under Section 3 of UGC Act, 1956.
- III Private universities are approved by the UGC. They can grant degrees but they are not allowed to have off-campus affiliated colleges

Apart from the above universities, other institutions are granted the permission to autonomously award degrees. These institutes do not affiliate colleges and are not officially called “universities” but “autonomous organisations” or “autonomous institutes”. They fall under the administrative control of the Department of Higher Education. These organisations include the Indian Institutes of Technology, the National Institutes of Technology, the Indian Institutes of Science Education and Research, the Indian Institutes of Engineering Science and Technology, the Indian Institutes of Management (though these award diplomas, not degrees), the National Law Schools, the All India Institute of Medical Sciences, and other autonomous institutes.

state/union territory	Number
Andhra Pradesh	0
Arunachal Pradesh	1
Assam	2
Bihar	3
Chandigarh	0
Chhattisgarh	1
Delhi	5
Goa	0

Gujarat	1
Haryana	1
Himachal Pradesh	1
Jammu and Kashmir	2
Jharkhand	1
Karnataka	1
Kerala	1
Madhya Pradesh	2
Maharashtra	1
Manipur	2
Meghalaya	1
Mizoram	1
Nagaland	1
Odisha	1
Puducherry	1
Punjab	1
Rajasthan	1
Sikkim	1
Tamil Nadu	2
Telangana	3
Tripura	1
Uttar Pradesh	6
Uttarakhand	1
West Bengal	1
Total	47

Table 6.2: Number of Central universities by state and union territory

Here are complete list. The following notations with their meaning as follows: † denotes Granted central university status (year), # denotes established by the Central Universities Act, 2009. * symbolises the fact that it is established under Central Act:[6] South Asian University Act, 2008[64] and Nalanda University Act, 2010. + Directly funded by Government of India and not by UGC.

No	University	State	Location	Established	Specialization
1.	Rajiv Gandhi University	Arunachal Pradesh	Itanagar	1985 (2007 †)	General
2.	Assam University	Assam	Silchar	1994	General
3.	Tezpur University	Assam	Tezpur	1994	General
4.	Central University of South Bihar	Bihar	Gaya	2009	General
5.	Mahatma Gandhi Central University	Bihar	Motihari	2016	General

6.	Nalanda University‡	Bihar	Rajgir, Nalanda	2010 *	General
7.	Guru Ghasidas Vishwavidyalaya	Chhattisgarh	Bilaspur	1983 (2009 †)	General
8.	Indira Gandhi National Open University‡	Delhi	New Delhi	1985	Distance education
9.	Jamia Millia Islamia	Delhi	New Delhi	1920 (1988 †)	Islam and General
10.	Jawaharlal Nehru University, Delhi	Delhi	New Delhi	1969	General
11.	South Asian University +	Delhi	New Delhi	2010 *	International university
12.	University of Delhi	Delhi	New Delhi	1922	General
13.	Central University of Gujarat#	Gujarat	Gandhinagar	2009	General
14.	Central University of Haryana#	Haryana	Mahendragarh	2009	General
15.	Central University of Himachal Pradesh#	Himachal Pradesh	Dharamsala	2009	General
16.	Central University of Jammu#	Jammu and Kashmir	Jammu	2011	General
17.	Central University of Kashmir#	Jammu and Kashmir	Srinagar	2009	General
18.	Central University of Jharkhand#	Jharkhand	Ranchi	2009	General
19.	Central University of Karnataka#	Karnataka	Gulbarga	2009	General
20.	Central University of Kerala#	Kerala	Kasaragod	2009	General
21.	Dr. Hari Singh Gour University	Madhya Pradesh	Sagar	1946 (2009 †)	General
22.	Indira Gandhi National Tribal University	Madhya Pradesh	Amarkantak	2007	General
23.	Mahatma Gandhi Antarrashtriya Hindi Vishwavidyalaya	Maharashtra	Wardha	1997	Hindi language
24.	Central Agricultural University‡	Manipur	Imphal	1993	Agriculture
25.	Manipur University	Manipur	Imphal	1980 (2005 †)	General
26.	North Eastern Hill University	Meghalaya	Shillong	1973	General

27.	Mizoram University	Mizoram	Aizawl	2000	General
28.	Nagaland University	Nagaland	Lumami	1994	General
29.	Central University of Orissa, Koraput#	Odisha	Koraput	2009	General
30.	Pondicherry University	Puducherry	Pondicherry	1985	General
31.	Central University of Punjab#	Punjab	Bathinda	2009	General
32.	Central University of Rajasthan#	Rajasthan	Ajmer	2009	General
33.	Sikkim University	Sikkim	Gangtok	2007	General
34.	Central University of Tamil Nadu#	Tamil Nadu	Tiruvarur	2009	General
35.	Indian Maritime University‡	Tamil Nadu	Chennai	2008	Marine science
36.	English and Foreign Languages University	Telangana	Hyderabad	1958 (2007 †)	English and Foreign languages
37.	Maulana Azad National Urdu University	Telangana	Hyderabad	1998	Urdu language
38.	University of Hyderabad	Telangana	Hyderabad	1974	General
39.	Tripura University	Tripura	Agartala	1987	General
40.	Aligarh Muslim University	Uttar Pradesh	Aligarh	1920	General
41.	University of Allahabad	Uttar Pradesh	Allahabad	1887	General
42.	Babasaheb Bhimrao Ambedkar University	Uttar Pradesh	Lucknow	1996	General
43.	Banaras Hindu University	Uttar Pradesh	Varanasi	1916	General
44.	Rajiv Gandhi National Aviation University‡	Uttar Pradesh	Raebareli	2013	Aviation Science
45.	Rani Lakshmi Bai Central Agricultural University	Uttar Pradesh	Jhansi	2014	Agriculture
46.	Hemwati Nandan Bahuguna Garhwal University	Uttarakhand	Srinagar	1973 (2009 †)	General

47.	Visva-Bharati University	West Bengal	Santiniketan	1921	General
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Table 6.3: Central universities by state and union territory

6.13 State universities

The state with the most state universities in India is Uttar Pradesh with 25 state universities. Of the union territories, there are state universities only in Chandigarh and Delhi.

6.14 Deemed universities

The state with the most deemed universities in India is Tamil Nadu with 28 deemed universities. There are no deemed universities in Assam, Chhattisgarh, Goa, Himachal Pradesh, Jammu and Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim or Tripura. Of the union territories, there are deemed universities in Chandigarh, Delhi and Puducherry.

Constitutional provisions about education

15	Right	Prohibition of discrimination.
21/A	Right	Free and compulsory education for 6-14 years kids
30/1	Right	Minority educational institutions.
51h	Duty	Develop scientific temper, humanism, spirit of inquiry and reform
51A(K)	Duty	Parent/guardian provide education to their 6-14 years kids.
45	DPSP	State shall give early childhood care and education for all kids upto 6 year.
46	DPSP	<p>State to look after Educational and economic interests of SC, ST, OBC.</p> <p style="text-align: center;"> 1. SC=15% ST=7.5% OBC=27% 2. 3. </p> <p>These % apply to central (not state) educational institutions. In state educational Institutes, reservation depends on population. E.g. Punjab has no ST reservation. Tamilnadu only 1% ST reservation..</p>
86th	Amendment	<ol style="list-style-type: none"> 1. 86th Constitutional amendment 2002 2. It inserts 21/A= kids have right to education. 3. It inserts 51A(k)=adults have duty to provide education to their kids.
93rd	Amendment	<ol style="list-style-type: none"> 1. 93rd Constitutional amendment act 2005 2. It amended art 15 (Fundamental Right) to provide reservation for SC, ST and OBC in private institutions. (including self-financed but excluding minority educational institutions.) 3. it nullified Supreme court's judgment in other case that State cannot impose reservation on private aided institutions.

Food scheme in education

Midday meal	Kids	<ol style="list-style-type: none">1. Class 1 to 8. Applicable to Govt.schools, Government aided schools, local body schools, EGS, AIE centre , Madrasas2. Started in 1995.
SABLA	Girls	<ol style="list-style-type: none">1. Rajiv Gandhi Scheme for Empowerment of Adolescent Girls2. To provide nutrition for growing adolescent girls by provision of food grains.3. All girls will be given a kishori card which will be updated with details of the girl's growth and provision of the food grains.

Different scheme in education

Term	Target	Provision	Notes
RTE'09.	Kids	Fundamental right	<ol style="list-style-type: none"> 1. Art 21A / 86th amendment 2002 2. Right to education act passed in 2009. 3. Became operative from 1st April 2010 (april fool?) 4. Free and compulsory edu. Age 6-14
Sarva Shiksha Abhiyan (SSA)	Kids	Infra+services	<ol style="list-style-type: none"> 1. Started in 2001. 2. RTE is being implemented via SSA. 3. alternative schools, 4. Bridging gender-social gaps in enrolment, learning.
RMSA	Teens	Infra+services	<ol style="list-style-type: none"> 1. Rahstriya Madhyamik Shiksha Abhiyan 2. Started in 2009. 3. To enhance access to secondary education. 4. To increase the enrollment rate from 52% (2005-06's number) to 75% within five years. 5. Provide secondary school within reasonable distance from any habitation. 6. Provide affordable (not free) secondary education to all. 7. universal access to secondary education by 2017 8. universal retention by 2020.
Sakshar Bharat	Illiterate adults.	Infra+service	<ol style="list-style-type: none"> 1. Earlier known as National Literacy mission (NLM) 2. For illeterates above 15+ age. 3. Setup Lok Shiksha Kendras (Adult Education Centres). 4. Primary focus is on Women.
Kasturba Balika Vid-hyalaya	Girls	Infra+service	Residential upper primary schools for girl SC,ST,OBC,Minority girls Target: scattered habitation.
NPEGEL	Girls at elementary level.	Service/ supervision	National Programme for Education of Girls at Elementary Level to reduce the school dropouts by giving special attention to weak girls. In villages, women's group are formed. These groups do follow up/supervision on girl's enrollment, attendance, achievement.

Different scheme in education

Mahila Samakya	Rural women	Awareness	Educating rural women for empowerment. Under this scheme women's forums (Mahila Sangha) created. It provides space for rural women to meet, discuss issues, ask questions, make informed choices. Implemented in ten states.
Girls hostel for secondary+ higher	Girls	Infra (hostel)	<ol style="list-style-type: none"> 1. Class 9 to 12 2. SC/ST/OBC/BPL 3. In educationally backward blocks. 4. This will be merged with RMSA in 12th FYP.
IDEDSS	Disabled students	Services + cash to girls.	Inclusive Education for Disabled at Secondary Stage and enroll disabled students in highschool (class 9-12)
School Health Programme	kids	service	<ol style="list-style-type: none"> 1. A wide range of activities to target healthiness among school students 2. Biannual health screenings and early management of disease, disability, etc. 3. Weekly Iron and Folic Acid Supplement (WIFS) to tackle anemia in boys and girls. 4. Immunization schemes, etc
Babu Jagjivan Ram Chhatrawas Yojana	highschool Teens collegians	hostel, infra	<ol style="list-style-type: none"> 1. Hostel Facilities to SC boys and girls in Middle and Higher Secondary Schools, Colleges, Universities. 2. Funds given to states, NGOs to create infrastructure.
Jalmani	Rural kids	Infra	<ol style="list-style-type: none"> 1. Installation of standalone water purification systems in rural schools. 2. 100% central assistance. This is done by Ministry of Drinking Water and Sanitation.
Bal Shree scheme	Kids	teaching/training	<ol style="list-style-type: none"> 1. Launched by national Bal bhavan. 2. Identify kids in four areas of creativity : art, performance, science, writing 3. And then train and nurture them.

Different scheme in education

EGS	Kids in remote areas	Teaching	<ol style="list-style-type: none"> 1. Education guarantee scheme 2. 25 kids in the given habitation but no school within distance of 1 kms. (15 for hill, tribal, desert hemlet.)
AIE	Deprived kids child laborers street kids etc.	Teaching	Alternative education interventions
ICT in schools	All	e-learning	<ol style="list-style-type: none"> 1. High speed internet connection. 2. Virtual classrooms, online teaching and other fancy stuff.

Different organization in education

National council for teacher education	Teachers	<ol style="list-style-type: none"> 1. Norms for teacher training institutes 2. Minimum qualification for appointment of teachers 3. Survey, research and other fancy stuff.
National bal bhavan	kids	<ol style="list-style-type: none"> 1. Funded by HRD ministry 2. Develop creativity in kids aged 5-16. Dance, drama, painting, craft workshop etc. fancy stuff.
Kendriya vidyalaya (KV)	Kids of transferable central Govt. employees + Defence personnel.	<ol style="list-style-type: none"> 1. No fees for boys upto class 8 and SC/ST upto 12 2. 100 KV in North East 3. 100% centrally funded.
CBSE	Teens	<p>Central Board of secondary education.</p> <ol style="list-style-type: none"> 1. Board exams (10,12) 2. All India pre-Medical, dental, engineering exam 3. Entrance test for Navodaya Vidyalaya 4. Designing syllabus

Different organization in education

NIOS	Teens	<ol style="list-style-type: none"> 1. National institute of open schooling. 2. Distance education for secondary and senior secondary 3. Vocational courses 4. Largest open schooling org in the world
NCERT	Kids +Teens +UPSC aspirants	<ol style="list-style-type: none"> 1. Established in 60s. 2. national council of educational research and training. 3. Teacher training through EDUSAT 4. Educational content via Gyan Darshan and Gyan Vani.
Jawahar Navodaya Vidhyalaya (JNV)	Rural kids	<ol style="list-style-type: none"> 1. Identify bright rural students give them better schooling. (free textbook, uniform, hostel). 2. Class 6 to 12. 3. Admission based on entrance test. 4. 33% reservation for girls. 5. National integration by exchanging students from hindi, non-hindi belt. 6. Has 2 lakh + students, in 500+ JNV.
Jan Shikshan Sansthan	Adults	<ol style="list-style-type: none"> 1. Vocational training to non-literate, neo-literature, school dropouts. 2. Tailoring, soft toys, cottage, leather etc.
UGC	Collegians	<ol style="list-style-type: none"> 1. University grants Commission. 2. Statutory org. 3. Established in 50s 4. Coordination between union and states regarding higher education.
IGNOU	Collegians, UPSC aspirants	<ol style="list-style-type: none"> 1. Established in 85. 2. Higher education for those who cannot attend regular college. 3. Gyandarshan=24 hr edu. Channel 4. Gyan Vani=Educational FM radio 5. EDUSAT=exclusive educational satellite.

Different organization in education

INDEST	e-library	<ol style="list-style-type: none"> 1. Indian national digital library for sci-tech. 2. Under HRD ministry
NBT	readers	<ol style="list-style-type: none"> 1. National Book trust. 2. Autonomous under HRD Ministry 3. Publication of books 4. Promotion of books abroad 5. Increase reading habit 6. Organize book fairs
WIPO	Pirates	<ol style="list-style-type: none"> 1. World intellectual property organization. 2. Specialized agency of UN 3. India's Commerce ministry coordinates with WIPO.
Model schools	Kids	<ol style="list-style-type: none"> 1. These are based on Kendriya Vidhyalaya template. 2. Setup in Educationally backward blocks under 11th FYP.

Different CASH/scholarship/award in education

Dhanlaxmi	Girls	<ol style="list-style-type: none"> 1. Conditional Cash Transfer for Girl Child following 3 conditions. 2. At birth and Registration of Birth. 3. Progress of Immunization and Completion of Immunization. 4. Enrolment and Retention in School. 5. The scheme is to change attitude of a thinking a girl child as financial burden.
Rajiv Gandhi National Fellowship Scheme	Collegians	<ol style="list-style-type: none"> 1. Assistance to SC/ST students for M.Phil, PhD programmes. 2. UGC is the nodal agency.
National Overseas Scholarship	collegians	<ol style="list-style-type: none"> 1. To SC,ST,artisans,tribals,weavers,etc. 2. For higher studies abroad (Masters/PhD) in the field of Engineering,Technology,Science.

Different CASH/scholarship/award in education

Dr. Ambedkar national scholarship scheme.	Class 10 student from SC/ST/poor family	One time cash award of Rs.1 lakh to 3 students scoring highest marks in class 10
Maharshi Badrayan Vyas Samman	30-40 yo Sanskrit Scholars.	Award for Research on Sanskrit / ancient Indian wisdom.

6.15 solved MCQ

1. To make teachers accountable. They should be given
 - (A) Freedom in the selection of content and methods of teaching
 - (B) Training in teaching and examining.
 - (C) Opportunities for professional growth
 - (D) Transfer to places where they want to serve.
2. Who is the custodian of fundamental rights of people?
 - (A) Supreme Court
 - (B) President
 - (C) Prime Minister
 - (D) State Assembly
3. The social heritage of people could be described by the following term
 - (A) Culture
 - (B) Social norm
 - (C) Transmission
 - (D) Human involvement
4. Which one of the following characteristics could be regarded as the outstanding aspect of a scientific culture?
 - (A) Generalisation
 - (B) Actualisation
 - (C) Qualification
 - (D) Quantification
5. In India, education means
 - (A) The assimilation of tradition in language
 - (B) Respectful behaviour to elders & teachers
 - (C) Customs
 - (D) All are important
6. Which of the following standing committees of Parliament has no MP from Rajya Sabha?
 - (A) Public Accounts Committee
 - (B) Estimates Committee
 - (C) Committee on Public Undertakings
 - (D) Committee on Government Assurances
7. India is a
 - (A) Secular State
 - (B) Bilingual State
 - (C) Communist State
 - (D) Capitalist State
8. The Council of Ministers is responsible to the
 - (A) President
 - (B) Lok Sabha
 - (C) Vice-President
 - (D) Rajya Sabha

9. The judges of the Supreme Court are appointed by the
- Prime Minister of India
 - Speaker of the Rajya Sabha
 - President of India
 - Ministry of Law & Justice
10. Which of the following are the ideals set forth in the Preamble?
- Social, economic and political Justice
 - Equality of status and of opportunity
 - Liberty of thought, expression, belief, faith and worship
 - All of these
11. Of which fundamental right is a foreigner in India deprived of?
- To seek justice in court
 - To seek financial security of life
 - To criticise policies of government
 - To vote at the time of 'Parliamentary election
12. The Legislative Council of a State is a
- temporary body
 - permanent body
 - semi-permanent body
 - chamber of the nominated members
13. Which of the following is the federal feature of the Indian Constitution?
- There is distribution of Powers in accordance with 2 lists
 - Written and rigid constitution
 - Independent Judiciary
 - All of these
14. The Tenth Schedule to the Constitution of India relates to
- Panchayati Raj Institutions
 - Anti-defection Act
 - List of languages recognised by the Constitution
 - Procedure for amendment to the Constitution
15. Hearing is controlled by
- Frontal lobes
 - Occipital lobes
 - Temporal lobes.
 - Parietal lobes
16. All the functions of educational measurements are concerned, directly or indirectly with
- Avoidance of conflicts
 - Selection of teachers
 - Facilitation of learning
 - Improvement of administration
17. The most accurate statement about teaching machines is that
- B F Skinner began the movement for their use
 - they were designed as an economy measure to replace teachers
 - they are not as efficient as teachers in reinforcing responses
 - they can be used for all learning programmes
18. A culturally disadvantaged child is best served by the school system that
- places him/her in a class with other culturally disadvantaged children
 - gives him/her an annual intelligence test
 - trains teachers to understand his/her impoverished home background
 - assesses his/her strengths and needs and provide for an individualized learning plan
19. All of the following tend to erode local control of education in favour of national control, except The
- National Science Foundation
 - National Institute of Mental Health

- (C) College Entrance Examination Board
(D) National Defence Education Act
- 20.** A student fails a test for which he did not study. By ascribing his failure to the fact that the teacher does not like him he is utilizing
- (A) conversion
(B) sympathism
(C) rationalization
(D) compensation
- 21.** The project method of teaching is best associated with the philosophy of
- (A) John Dewey
(B) Max Rafferty
(C) Robert Hutchins
(D) B F Skinner
- 22.** Bhabha Atomic Research Centre (BARC) is situated at
- (A) N. Hyderabad
(B) Bangalore
(C) Delhi
(D) Trombay (Mumbai)
- 23.** Birla Institute of Technology is situated at
- (A) Ranchi
(B) Jaipur
(C) Kota
(D) Hardwar
- 24.** Central Forensic Science Laboratory is situated in
- (A) Chandigarh
(B) Patna
(C) Patiala
(D) Ludhiana
- 25.** In which of the following respects is a theory 'not' different from a belief?
- (A) Antecedent consequent relationships'
(B) Acceptability
(C) Verifiability
(D) Demonstrability
- 26.** According to Swami Vivekananda, teacher's success depends on
- (A) His renunciation of personal gain a" service to others
(B) His concentration on his work and if with a spirit of obedience to God.
(C) His professional training and creating
(D) His mastery of the subject and task controlling the students
- 27.** The Montessori schools insist on
- (A) The principle of sense training
(B) Creativeness, the main objective c education
(C) Complete discipline and supervision
(D) Well equipped school buildings
- 28.** It is usually claimed that any subject that is taught in school has a disciplinary value. This means, that
- (A) It requires strict discipline among students to learnt it
(B) It teaches certain habits and qualities to train the minds of students
(C) Every subject is the outcome of the disciplined thinking and experience of experts
(D) It requires special and disciplined methods of teaching
- 29.** According to Alder, the primary cause for stresses and strains in an individual is
- (A) The feeling of inferiority
(B) The desire for knowledge of the self
(C) The desire for gratification of the sex impulse
(D) The curiosity to know the mind of others

- 30.** The Pancha Kosh Theory of Education was elaborated by
- (A) Swami Vivekananda
(B) Patanjali
(C) Mahatma Gandhi
(D) Aurobindo
- 31.** Which one of the following sets of special powers has been conferred on Rajya Sabha by the Constitution?
- (A) To change the existing territory of a state and to change the name of a state
(B) To pass a resolution empowering the parliament to make laws in the State List and creation of one or more All-India services
(C) To amend the election procedure of the President and to determine the pension of the President after his retirement
(D) To determine the functions of the Election Commission and to determine the number of Election Commissioners
- 32.** It is often complained that there is brain drain in our country. The implication is that
- (A) The brains of educated persons are having washed in unnecessary pursuits.
(B) Students brains are unnecessarily burdened with every education
(C) Education that is imparted is a string to the brains average students
(D) Educated and capable people are seeking jobs in other countries because of unemployment here
- 33.** Historically speaking, Thorndike's theory of learning was translated into classroom method following
- (A) Trocbeian principles of child education.
(B) Herbatian steps with only slight modifications.
(C) John Looke's approach to children's state of mind
(D) The scientific principles recommended by Rousseau.
- 34.** Rousseau who popularized the Naturalistic Philosophy of Education in the West belonged to
- (A) The 17th Century
(B) The 16th Century
(C) The 15th 16th Centuries
(D) The 18th Century
- 35.** A good piece of research is the product of
- (A) A good research library
(B) Collective scholarship
(C) A penetrating and analytical mind
(D) A touch of genius
- 36.** The horizontal enrichment programme of instruction means
- (A) Selecting topics of equal difficulty level and presenting them together.
(B) Grouping children of similar abilities for teaching advanced knowledge
(C) Teaching topics in relation to other topics to suggest self study by students
(D) Enlisting the co-operation of all talented students to study together with a competitive spirit
- 37.** Appetite and satiety centres of brain are present in
- (A) Hypothalamus
(B) Cerebral hemisphere
(C) Cerebellum
(D) Medulla oblongata
- 38.** The Indian Education Commission (1964-66) has recommended compulsory social service for school children as follows
- (A) 20 days for the lower secondary stage and 20 days for the higher secondary stage

- (B) 10 days for the primary stage and 30 days the secondary stage
- (C) 30 days for the lower secondary and 20 days for the higher secondary stage
- (D) 10 days for the lower secondary stage and 20 days for the higher secondary stage
- 39.** Who can amend the Constitution?
- (A) President
- (B) Parliament
- (C) Prime Minister
- (D) Union Cabinet
- 40.** How many members of the Anglo-Indian community can be nominated to the Lok Sabha by the President?
- (A) 2
- (B) 5
- (C) 10
- (D) 12
- 41.** When you put a question in the class to check the knowledge of students, the best method would be to
- (A) Put more than one question at a time to stimulate students
- (B) Frame the question as lengthy as you can
- (C) To point to intelligent students first and then put the question
- (D) To pose the question to the whole class and then select somebody to answer
- 42.** Research is
- (A) Data gathering
- (B) Moving from a broad area to a narrow and focussed area
- (C) A systematic process of finding the truth
- (D) Data gathering, processing and analysis
- 43.** If you were reading a series of articles about the teaching of reading, you would expect to be reading an article by
- (A) Paul McKee
- (B) Albert Harris
- (C) Arthur Gates
- (D) Frank Reissman
- 44.** Of the following, the author of a widely used intelligence test is
- (A) David Wechsler
- (B) B F Skinner
- (C) William Cruikshank
- (D) Bruno Bettelheim
- 45.** Indian Institute of Science (IISc) is located in
- (A) Chennai
- (B) Kolkata
- (C) Bangalore
- (D) Mumbai
- 46.** Indian Institute of Foreign Trade is situated in
- (A) Lucknow
- (B) Dehradun
- (C) New Delhi
- (D) Mumbai
- 47.** National Institute of Immunology is situated in
- (A) Delhi
- (B) Hyderabad
- (C) Goa
- (D) Kochi
- 48.** A set of test papers from a class of 29 students has been arranged in order from the highest to the lowest scores. The mark on the fifteenth paper is known as the
- (A) median
- (B) mean
- (C) mode
- (D) norm

- 49.** Recreational reading should be
- (A) reserved for the school library period
 - (B) assigned as homework
 - (C) a responsibility of the home, not the school
 - (D) an integral part of the language arts curriculum
- 50.** When Jeewan receives his failing test mark, he tells the teacher, "You don't like me." This is an example of
- (A) identification
 - (B) transference
 - (C) egocentrism
 - (D) projection
- 51.** Of the following learning theories, the one that embodies the idea that learning takes place through insight is known as
- (A) Gestalt
 - (B) stimulus-response
 - (C) connectionist
 - (D) pragmatic
- 52.** Overlearning tends to strengthen an individual's
- (A) powers of retention
 - (B) endurance
 - (C) feeling of boredom
 - (D) motivation
- 53.** How many Indian Institutes of Technology (IIT) are there in India?
- (A) 16
 - (B) 4
 - (C) 6
 - (D) 3
- 54.** How many Indian Institutes of Management (IIM) are there in India?
- (A) 13
 - (B) 7
 - (C) 5
 - (D) 8
- 55.** The theory of learning associated with connectionism was propounded by
- (A) Socrates
 - (B) Pavlov
 - (C) Thorndike
 - (D) Kilpatrick
- 56.** Evaluation in education insists on the following:
- (A) Making tests more reliable and valid
 - (B) Conducting periodical tests to detect students' weaknesses
 - (C) Insisting on clear cut behavioural objectives of teaching
 - (D) Examining students objectively for selection purpose
- 57.** The main purpose of the first degree in our universities should be to
- (A) Bring students to frontiers of knowledge and from there should be research
 - (B) Equip students with necessary competencies for different work experiences
 - (C) Prepare students for social service and bring them to the threshold of knowledge
 - (D) Bring to the frontiers of research with necessary equipment of knowledge
- 58.** The idea of starting girls' University in our country started in the year 1970.
- (A) As an initiative of the British rulers.
 - (B) Through the efforts of municipalities and local fund communities
 - (C) With the opening of the SNDT university at Bombay
 - (D) With the political awakening in the country by the push given by Mahatma Gandhi

- 59.** A good communicator needs to be good at
- (A) Speaking
 - (B) Listening
 - (C) The use of language
 - (D) The use of humour in speech
- 60.** Which controls reflex action?
- (A) Sympathetic nervous system
 - (B) Central nervous system
 - (C) Parasympathetic nervous system
 - (D) Sensory nerves
- 61.** The salaries of the Judges of the Supreme Court are charged on the consolidated fund of India Because
- (A) they may get salaries regularly every month
 - (B) their salaries may be free from legislative vote
 - (C) there may not be any cut in their salaries
 - (D) their financial position may be secure to enable them to dispense impartial justice
- 62.** A member of the Union Public Service Commission holds office for a period of
- (A) Five Years
 - (B) Seven years
 - (C) Six years or sixty five years of age whichever is more
 - (D) Six years or until he attains the age of sixty five whichever is earlier
- 63.** Adult education's main objective is to
- (A) Teach adults to be able to understand' what they read
 - (B) Enable the adults to read and write
 - (C) Help adults achieve literacy along it personal development
 - (D) Socialise the adults to move about freely
- 64.** The idea of sense training in the Montessori method is based on
- (A) The theory of transfer of training
 - (B) The behaviouristic theory of education
 - (C) The stimulus response theory of learning
 - (D) The pragmatic aspects of education theories
- 65.** Which of the following skills/qualities is most important for a researcher?
- (A) Desire to discover the truth
 - (B) Communication skills
 - (C) Ability to gather data
 - (D) Ability to work hard
- 66.** The term "Manpower Needs" in any country requires the
- (A) People should be educated in accordance with specified jobs requirements
 - (B) Enrolments in educational institutions should be decided according
 - (C) Capacities of men should be fully utilised for education and training
 - (D) Education at all stages should be geared to promote the powers of the educates
- 67.** Spinal nerves are usually
- (A) Mixed
 - (B) Efferent
 - (C) Afferent
 - (D) Sensory
- 68.** A mixed cranial nerve is
- (A) Facial
 - (B) Abducens
 - (C) Auditory
 - (D) Oculomotor
- 69.** Man is superior to other animals mainly due to
- (A) Large brain

- (B) Free forelimbs
(C) Erect posture
(D) Front eyes
- 70.** Vocationalisation of education has the object of
(A) Preparing students for a vocation along with knowledge
(B) Giving more importance to vocation than general education
(C) Converting liberal education into vocational education
(D) Creating an educational bias among vocational people
- 71.** The quorum of the Parliament is fixed at
(A) one-tenth of the membership of the House
(B) one-third of the membership of the House
(C) one-half of the membership of the House
(D) four-fifths of the membership of the House
- 72.** The Directive Principles
(A) aim at establishing welfare state of Gandhian conception
(B) aim at giving ideals to be incorporated at a later stage
(C) aim at giving support to the , Fundamental Rights
(D) A and B only
- 73.** In India the executive is responsible directly to the
(A) Legislature
(B) President
(C) Judiciary
(D) Lok Sabha
- 74.** The Rajya Sabha is
(A) dissolved once in two years
(B) dissolved after every five years
(C) adjourned every six months
(D) not subject to dissolution
- 75.** Ministers in the Union Cabinet are appointed by the
(A) Prime Minister
(B) President
(C) President of India on the advice of the Prime Minister
(D) None of these
- 76.** The Council of Ministers headed by the Prime Minister is responsible to
(A) Prime Minister
(B) President
(C) Parliament
(D) Speaker of Lok Sabha
- 77.** What is the literal meaning of secularism?
(A) Freedom to worship any God
(B) Death of religion
(C) Separation of religion from the state
(D) All of these
- 78.** The real powers in the Central Government are enjoyed, according to the Constitution of India by the
(A) President of India
(B) Vice-President of India
(C) Prime Minister of India
(D) Chief Ministers
- 79.** The abbreviation SUPW means
(A) Social Upsurge for Progress and Work
(B) Scientific Utilisation for People and World
(C) Socially Useful and Productive Work
(D) Solution of Utilitarian Problems of Work

- 80.** If a student becomes unconscious in the class what will you do first?
(A) Telephoning student's parents and waiting for them
(B) Rushing to the principal's office and canvassing for help impatiently
(C) Giving first aid to him and trying to contact any nearby doctor
(D) Making arrangement to send him to his home
- 81.** Effective teaching means
(A) Love, cooperation, sympathy, affection and encouragement given to students
(B) Corporal punishment given to students at the time of moral offences
(C) Individualized instruction and open classroom discussion
(D) Both A and C
- 82.** School children are often victims of infection caused by
(A) Mal-nutrition caused by undigested food particles
(B) Invasion of the body by the plant and animal organisms
(C) Carelessness of teachers in providing activities
(D) Lack of proper exercises and drills
- 83.** One can be a good teacher, if he
(A) Has genuine interest in teaching
(B) Knows his subjects
(C) Knows how to control students
(D) Has good expression
- 84.** Drop outs are more likely to be
(A) Vulnerable to the requirement of public assistance
(B) Unemployed
(C) Engaged in antisocial behaviour
(D) All of these
- 85.** Genu and splenium are associated with
(A) Medulla oblongata's
(B) Cerebrum
(C) Cerebellum
(D) Vermis
- 86.** Parkinsons disease is of
(A) Heart
(B) Kidneys
(C) Brain
(D) Lungs
- 87.** The professional requirements of a teacher as explained in the UNESCO publication is/ are
(A) Innovativeness in approach and teaching strategies
(B) Mastery over the subject and competency for teaching
(C) Justice to the profession
(D) All of the above
- 88.** During depolarization, permeability of neuron increases towards
(A) N⁺
(B) Na⁺
(C) Ag⁺
(D) Mg⁺⁺
- 89.** Students should prefer those teachers who
(A) Give important questions before examination
(B) Dictate notes in the class
(C) Can clear their difficulties regarding subject-matter
(D) Are themselves disciplined
- 90.** Students learn more from a teacher who is
(A) One who communicates his ideas precisely and clearly?
(B) Affectionate
(C) Gently
(D) Hard working

- 91.** The most important skill of teaching is
 (A) making students understand what the teacher says
 (B) Keeping students relaxed while teaching
 (C) Covering the course prescribed in his subject
 (D) Taking classes regularly
- 92.** A technical educational cess was recommended to be levied in our country' the first time by
 (A) The Secondary Education Commission
 (B) The International Education Commission
 (C) The University Education Commission
 (D) The Technical Education Commission
- 93.** The best way to react to wrong answer by a student is
 (A) To scold him for not having learnt lesson
 (B) To explain why the answer is wrong
 (C) To ignore the wrong answer and pass on to the next question
 (D) To ask another student to give the correct answer
- 94.** The trial and error method of learning according to Thorndike could be classified as under
 (A) The principle of multiple responses
 (B) The law of exercise
 (C) The principle of partial activity
 (D) The principle of Associative learning
- 95.** Liberalism in education, when it was claimed by universities of the world since the 19th century, meant
 (A) Freedom to be given to education from the clutches of religion
 (B) Favoring liberal education as opposed to special education
 (C) Academic freedom for teachers in instruction
 (D) Administrative freedom to universities to run the institution
- 96.** The term 'Evaluation' and 'Assessment' could be discriminated as follows :
 (A) Assessment is limited to coverage achievement whereas evaluation is qualitative in character
 (B) Evaluation is concerned with the effective aspects of achievement whereas assessment judges the cognitive aspects
 (C) Evaluation involves the measurement as well as diagnosis of students' attainments, whereas assessment is concerned with only scholastic attainments.
 (D) Assessment is an attempt to measure the pupil as whole whereas evaluation is concerned with his achievement only
- 97.** Naturalism in education means
 (A) Introduction of physical sciences in education
 (B) Giving more importance to mind than to matter
 (C) Making discrimination between mind and consciousness
 (D) Supporting both mind and consciousness equally
- 98.** In a class of ten pupils the grades in a spelling test were
 97 – 97 – 97 – 92 – 92 – 85 – 76 – 73 – 65 – 60.
 The mode of those scores is
 (A) 92
 (B) 97
 (C) 97 minus 60 divided by 2
 (D) the sum of the scores divided by 10
- 99.** Of the following intelligence tests, the one which is individually administered is the
 (A) WISC

- (B) Pintner-Cunningham Primary
(C) Army Alpha
(D) Kuhlman-Anderson
- 100.** With respect to the development of skills, all of the following are correct except that
(A) pupils of the same mental age should learn at the same rate
(B) group instruction facilitates the learning process
(C) learning individual instruction is often required
(D) workbooks can be an invaluable learning aid
- 101.** The pair of terms incorrectly associated is
(A) IQ-relationship between MA and CA
(B) validity-measure of consistency in testing
(C) inkblot-projective testing
(D) median-the middle score
- 102.** "School is life, not a preparation for life." This statement summarizes one important aspect of educational philosophy of
(A) John Dewey
(B) Robert Hutchins
(C) Mortimer Adler
(D) SI Hayakawa
- 103.** Of the following, the educator who is not an advocate of radical educational reform
(A) Postman
(B) Illich
(C) Bestor
(D) Kozol
- 104.** All of the following are correct paired except
(A) Froebel - progressivism
(B) Dewey -pragmatism
(C) Skinner-Gestalt
(D) Herbart-apperception
- 105.** The most powerful Upper Chamber in the world is
(A) American Senate
(B) British House of Lords
(C) Rajya Sabha of the Indian Republic
(D) None of the above
- 106.** The President of India is
(A) The head of the State
(B) The head of the Government
(C) The head of the State as well as Government
(D) All of these
- 107.** As per Indian Protocol, who among the following ranks highest in the order of precedence?
(A) Deputy Prime Minister
(B) Former President
(C) Governor of a State within his State
(D) Speaker of Lok Shaba
- 108.** A bill becomes a law when
(A) Both Houses of Parliament approve it by requisite majority
(B) The Council of Ministers approves it
(C) The President gives his assent
(D) The Supreme Court upholds its constitutional validity
- 109.** Mainstreaming is a term associated with
(A) career education
(B) education for the handicapped
(C) interage class groupings
(D) environmental education
- 110.** Most students in medieval universities learned by
(A) laboratory experimentation
(B) reading the Bible
(C) listening to lectures
(D) studying in libraries

- 111.** All of the following are advantages of teaching machines except
- (A) the control of cheating
 - (B) the tracking of errors
 - (C) the insurance of attention
 - (D) their universal use for different kinds of programmes
- 112.** Holding of elections for the village Panchayat is decided by
- (A) The Collector
 - (B) The Election Commission
 - (C) The Central Government
 - (D) The State Government
- 113.** The industrial revolution that started in the West to begin with had the following effect on education
- (A) Shifting the emphasis from the lower class culture to the middle class culture
 - (B) Shifting the centre of gravity from the middle to the lower class culture
 - (C) Introduction of mass educational programmes
 - (D) Introduction of vocationalisation of education
- 114.** Any deterrents are negative in character
- (A) When they prevent children from doing wrong
 - (B) When they prevent doing wrong but do not reform children
 - (C) When they are administered owing to some misunderstanding
 - (D) When they are administered with a negative motive
- 115.** Industries near the towns cause
- (A) Pollution
 - (B) Finished material
 - (C) Security
 - (D) Employment
- 116.** Out of the following, in which lesson, a general rule is explained first and then, knowledge is accumulated on the basis of that rule?
- (A) Deductive lesson
 - (B) Inductive lesson
 - (C) Developing lesson
 - (D) Knowledge lesson
- 117.** In the project education technique, the work load on the teacher is
- (A) very high
 - (B) comparatively low
 - (C) low
 - (D) nil
- 118.** Why do you not support the five-stage method of Herbart?
- (A) In this, there is no scope for the individual diversity of students
 - (B) Under this, it is difficult to make coordination between various subjects
 - (C) Under this, generalisation is not required to be done while teaching subjects like language, history, geography etc.
 - (D) all of these
- 119.** Who is known as the father of educational psychology?
- (A) Pestology
 - (B) Devy
 - (C) Herbart
 - (D) Spencer
- 120.** The educational system of today promotes "educated unemployment". The reason is that
- (A) education gives theoretical knowledge only
 - (B) professional education is not a part of education
 - (C) the objective of education is not vivid
 - (D) all of these

- 121.** In the school, "education on environment" can be imparted by
- (A) lectures
 - (B) articles
 - (C) sports
 - (D) adopting it ourselves
- 122.** Indian Institute of Advanced studies is located in
- (A) Shimla
 - (B) Solan
 - (C) Dharmshala
 - (D) Chandigarh
- 123.** Air Force Administrative College is situated in
- (A) Hyderabad
 - (B) Coimbatore
 - (C) Bidar
 - (D) Agra
- 124.** Indian School of Mines is situated at
- (A) Patna (Bihar)
 - (B) Dhanbad (Jharkhand)
 - (C) Kolkata (W. Bengal)
 - (D) Guwahati (Assam)
- 125.** What is the full form of MCA?
- (A) Ministry of Commerce & Agriculture
 - (B) Master of Computer Application
 - (C) Member Chartered Accountant
 - (D) Master of Commerce & Arts
- 126.** Immediate feedback is an essential characteristic of
- (A) team teaching
 - (B) teaching machines
 - (C) the Dalton Plan
 - (D) the project method
- 127.** Of the following objectives of an elementary music programme, the one of lowest priority is
- (A) to expose children to a variety of musical compositions
 - (B) to prepare children for wise use of leisure time
 - (C) to develop a group of performers for the holiday assemblies
 - (D) to provide children with emotional outlets
- 128.** With regard to readiness to read, all of these statements are true except that
- (A) some psychologists believe that a child is not ready to begin reading until he/ she has achieved a mental age of about six years
 - (B) a strong desire to read is a determining factor
 - (C) a reading readiness programme may begin for some children in kindergarten
 - (D) physical maturation is a crucial factor
- 129.** It is absurd to say that there can be
- (A) A pollution due to noise
 - (B) Education causes pollution
 - (C) Transport vehicles cause pollution
 - (D) All of the above
- 130.** Which of the following will not hamper effective communication in the class?
- (A) An ambiguous statement
 - (B) A lengthy statement
 - (C) A precise statement
 - (D) A statement which allows the listener to draw his own conclusions
- 131.** If a student is constantly rubbing his eyes and is inattentive during blackboard work he is having
- (A) Adjustment problem
 - (B) Hearing problem
 - (C) Visual problem
 - (D) All of the above

- 132.** Play therapy is adopted in the study of children in order to
- (A) Make the educational process joyful
 - (B) To understand the inner motives and complexes of children
 - (C) Make education more activity centred
 - (D) Highlight the importance of play activities in education
- 133.** The most powerful barrier of communication in the classroom is
- (A) Noise in the classroom
 - (B) Confusion on the part of the teacher
 - (C) Lack of teaching aids
 - (D) More outside disturbance in the classroom
- 134.** It is said that there is an urgent need of articulation among schools and colleges, this problem of articulation is concerned with
- (A) Provision of better administrative facilities
 - (B) Appointment of talented teachers
 - (C) Communication and closer relationship among teachers
 - (D) Better facilities for in-service training of teachers
- 135.** The most important challenge before a teacher is
- (A) To maintain discipline in the classroom
 - (B) To make students do their home work
 - (C) To prepare question paper
 - (D) To make teaching-learning process enjoyable
- 136.** The idea that Basic Education is education through crafts
- (A) True as far as the rural areas are concerned
 - (B) The whole truth of the schemes
 - (C) The complete truth even for urban areas
 - (D) True to some extent only because the concept is deeper
- 137.** The joint sittings of the Union Parliament may be summoned for
- (A) Special address of the President
 - (B) Annual address of the President
 - (C) President's occasional messages of national significance
 - (D) Resolution of the dead lock between the two Houses on a non-money bill
- 138.** Who appoints the comptroller an Auditor-General of India?
- (A) The U.P.S.C.
 - (B) The President
 - (C) The Prime Minister
 - (D) The Parliament
- 139.** Consider the following statements regarding the Governor of a state in India
- I To be appointed as Governor, one should have completed the age of 45 years
 - (ii) The Governor holds the office during the pleasure of the President
 - (iii) After completing five years in office, the Governor cannot continue to hold the office even when his successor has not entered upon his office
 - (iv) The executive power of the state is vested in the Governor.
- Which of the above statements are correct?
- (A) I and II
 - (B) III and IV
 - (C) I,II and III
 - (D) II and IV

- 140.** A frequency distribution is best defined as the
- (A) number of scores above the median score
 - (B) number of pupils scoring above the median score
 - (C) number of test items ed correctly by a majority of the class
 - (D) number of pupils who received each score on a test
- 141.** With regard to standardized testing, which of the following statements is correct?
- (A) the testing of intelligence began in Germany
 - (B) the Wechsler Intelligence Scale for Children (WISC) is a group test
 - (C) the Rorschach test uses inkblots
 - (D) the Thematic Apperception Test (TAT) is easy to interpret
- 142.** Heterogeneous grouping best serves the aims of a democratic society because
- (A) parents prefer it
 - (B) pupils prefer it
 - (C) it minimizes class distinctions
 - (D) it is the best environment for learning
- 143.** The Lok Sabha secretariat comes under the control of
- (A) Ministry of Home Affairs
 - (B) Speaker of the Lok Sabha
 - (C) Ministry of Parliamentary Affairs
 - (D) Prime Minister
- 144.** Who examines the of the Comptroller and Auditor-General of India after it is laid before Parliament?
- (A) Lok Sabha Speaker
 - (B) Estimates Committee
 - (C) Public Accounts Committee
 - (D) None of the above
- 145.** Of great importance in determining the amount of transference that occurs in learning is the
- (A) IQ of the learner
 - (B) knowledge of the teacher
 - (C) use of appropriate materials
 - (D) presence of identical elements
- 146.** Which one of the following High Courts has the Territorial Jurisdiction over Andaman and Nicobar Islands
- (A) Andhra Pradesh
 - (B) Calcutta
 - (C) Madras
 - (D) orissa
- 147.** In case of absence of President and Vice-President, which of the following acts as the president of country
- (A) Prime Minister
 - (B) Speaker of Lok Sabha
 - (C) Chief Justice of India
 - (D) Leader of opposition
- 148.** Which of the following subjects does not belong to the Union List?
- (A) Atomic Energy
 - (B) War and Peace
 - (C) Post office Savings Bank
 - (D) Public Health and Sanitation
- 149.** President can be removed on charges o violating the Constitution by
- (A) No-confidence motion
 - (B) Impeachment
 - (C) Electoral College of Legislative Assemblies
 - (D) Prime Minister
- 150.** The term prejudice in a person is coloured by
- (A) A hasty judgement about a situation with an unfavourable

- (B) Judgement and assessment of a situation without any favoritism
- (C) Partial observation and acquaintance of a situation without any motives
- (D) Pre-judgement of a situation with a view to settle a conflict in haste
- 151.** Suppose you are teaching in a minority college where casteism and narrow mindedness victimize you, for better adjustment there you should
- (A) Uplift the humanistic values beyond these narrow walls and develop scientific temper in your students
- (B) Rebel against such attitudes as it is against the norms of the Indian society
- (C) Be submissive there and save your job at all costs
- (D) None of the above
- 152.** Suppose you want to teach your students to develop factual knowledge of a subject. Which of the following methods would be suitable in your opinion?
- (A) The demonstration method
- (B) The lecturer method
- (C) The heuristic method
- (D) The source method
- 153.** 'Judicial Review' is the power of the higher court to declare unconstitutional any
- I Law passed by legislature
- II Judgement of the lower court
- III Order of the executive
- Choose the from the following choices
- (A) I and II only
- (B) III only
- (C) I and III only
- (D) I, II and III
- 154.** How many types of emergency can be declared by the President of India?
- (A) 2
- (B) 3
- (C) 4
- (D) 5
- 155.** The retirement age of a Supreme Court Judge is
- (A) 55 years
- (B) 58 years
- (C) 62 years
- (D) 65 years
- 156.** The Prime Minister is
- (A) nominated by the President
- (B) elected by the Chief Ministers of States
- (C) is the leader of the majority party of Lok Sabha
- (D) is the leader of the majority party of Rajya Sabha
- 157.** Why are the Fundamental Rights considered fundamental?
- (A) Necessary for the successful working of democratic institution
- (B) Basic to the welfare, dignity and happiness of the individual
- (C) Constitution is based on these
- (D) Only I and II
- 158.** The President's Rule is imposed in a State or a Union Territory when the
- (A) Governor of a State or the Chief Commissioner or Governor advises the President to do so because the Government in that State/Territory cannot be carried on in accordance with the provisions of the Constitution
- (B) Chief Minister of a State requests to this effect
- (C) Chief Justice of the State High Court recommends through the Governor
- (D) Prime Minister knows best

- 159.** Agriculture, including research and education, falls in
 (A) State List
 (B) Union List
 (C) Concurrent List
 (D) None of the above
- 160.** Fundamental Rights of the citizens are
 (A) non-justiciable
 (B) justiciable
 (C) justiciable if the highest court feels it should be
 (D) Some rights are justiciable
- 161.** Fundamental Rights of the Indian citizens are contained in of the 'Indian Constitution'
 (A) Part I
 (B) Part II
 (C) Part III
 (D) Part IV
- 162.** Freedom of the Press as such
 (A) has been guaranteed by the Constitution
 (B) has not been expressly guaranteed by the Constitution
 (C) both (a) and (b)
 (D) None of the above
- 163.** Administrative Law means
 (A) law passed by the Union
 (B) law or rules made by the executive
 (C) laws relating to administration of non-Governmental institutions
 (D) all the above
- 164.** The Lok Sabha and the Rajya Sabha sit jointly when
 (A) they like
 (B) there is a disagreement between the two (Houses)
 (C) the President summons both the Houses
 (D) they must meet when two years have lapsed after the last meeting
- 165.** Who administers the Union Territories?
 (A) The President through the Administrators appointed by him'
 (B) The Prime Minister of India
 (C) The Law Minister, Government of India
 (D) The Attorney-General of India
- 166.** Directive Principles of State Policy aim at
 (A) ensuring individual liberty
 (B) ensuring and strengthening the country's independence
 (C) protecting the depressed classes
 (D) providing social and economic base for genuine democracy in the country
- 167.** Usually a Gram Panchayat is not responsible for
 (A) construction of village roads and tanks
 (B) sanitation, maternity and child welfare
 (C) financing of agriculturists
 (D) agricultural production
- 168.** What does the Panchayati Raj System signify?
 (A) single-tier structure of local Government
 (B) Double-tier system of self Government
 (C) Three-tier structure of local Govt. at the village, block and district level
 (D) None of these
- 169.** The Chairman and the members of State Public Service Commission are appointed by the
 (A) President
 (B) Governor
 (C) Chairman of UPSC
 (D) Prime Minister

- 170.** The function of the Panchayat Samiti is to
- (A) Deal with rural industrialisation
 - (B) Deal with administration of justice at the Panchayat level
 - (C) Implement community development project schemes
 - (D) Deal with financial matters of the Panchayat
- 171.** Of the doctrine of immanence it can be said truthfully that it
- (A) Pictures the world as an unfriendly place
 - (B) Implies that knowledge of the good is in the world about us
 - (C) distrusts the senses and unaided reason
 - (D) Supports Plato's theory of reality
- 172.** The sociologist feels that, if men expect to put an end to prejudice and race conflict, they will have to give major attention to
- (A) Legislating human rights for minorities
 - (B) Putting into effect the "melting pot theory"
 - (C) Re-establishing ethnocentrism
 - (D) Remedying social abuses and reducing conflict
- 173.** Boarding schools are considered to be better than the day schools because
- (A) They help children in their social development
 - (B) They are helpful in freeing parents from their responsibilities
 - (C) They save the trouble for children to walk to school from homes
 - (D) They are meant for homeless and parentless children
- 174.** Which one of the following is an ODD statement?
- (A) Majority of teachers use lectures method
 - (B) Knowledge is static
 - (C) Most of the classrooms are poorly equipped
 - (D) One way interaction prevails in the classrooms
- 175.** Which has the greatest potential for education through audio-visual means?
- (A) SITE programmes
 - (B) Teaching machine
 - (C) The language laboratory
 - (D) The Computer
- 176.** Teaching in higher education implies
- (A) Asking questions in the class and conducting examinations
 - (B) Presenting the information given in the text book
 - (C) Helping students to prepare for and pass the examination
 - (D) Helping students how to learn
- 177.** Any deterrents are negative in character
- (A) When they prevent children from doing wrong
 - (B) When they prevent doing wrong but do not reform children
 - (C) When they are administered owing to some misunderstanding
 - (D) When they are administered with a negative motive
- 178.** The approach to the concept of learning was different for Dewey and White Head in the following sense:
- (A) Dewey's approach was logical whereas White Head's approach was philosophical

- (B) Dewey thought of learning in pragmatic terms whereas White Head thought in terms of cultural aspects
- (C) Dewey thought of learning as an end in it where as White Head thought about it as a means
- (D) Dewey thought of learning in experimental terms while white Head thought of it in more esthetic terms.
- 179.** Effective teaching, by and large is a function of
- (A) Teacher's honesty
- (B) Teacher's scholarship
- (C) Teacher's making students learn and understand
- (D) Teacher likes for the job of teaching
- 180.** Cultural pluralism is based on the concept that
- (A) America is the "Melting Pot" for various foreign stocks
- (B) The American culture for all
- (C) It is incompatible with democracy
- (D) Our culture is variegated and dynamic, each group of immigrants contributing towards its enrichment
- 181.** To say that the adolescents are rebellions in nature, will be regarded by experts as
- (A) A misconception
- (B) A necessary character at that stage
- (C) And objective description of facts
- (D) An effect of the environment
- 182.** The competency of a teacher can be judged on the basis
- (A) Length of service
- (B) Publication of books
- (C) Meeting needs of students
- (D) Personality of teacher
- 183.** A teacher who believes in the realistic philosophy of education would
- (A) Support strict control and supervision to make children understand human race and culture
- (B) Not allow control and pressure on students to learn what they want to learn
- (C) Oppose supervision and interference of the teacher with the interests of students.
- (D) Allow full freedom to students in learning, following a non-interference policy.
- 184.** Liberalism in education, when it was claimed by universities of the world since the 19th century, meant
- (A) Freedom to be given to education from the clutches of religion
- (B) Favoring liberal education as opposed to special education
- (C) Academic freedom for teachers in instruction
- (D) Administrative freedom to universities to run the institution
- 185.** My reaction to the statement: A good teacher is essentially a good researcher" is that this is
- (A) My firm belief
- (B) Something find difficult to agree to
- (C) Something which I accept only as an opinion
- (D) Only a hypothesis
- 186.** The development of feelings of appreciation and interests come under the category of
- (A) Cognitive development of personality
- (B) Cognitive developmental aspects
- (C) Psycho-motor development of emotions
- (D) Affective aspects of development

- 187.** The state of the psyche designated as super ego by the Psycho-analysts, is found
- (A) In higher animal also
 - (B) Among human beings alone
 - (C) Among men practising yogic exercises
 - (D) Among men and animals as well
- 188.** As an idealist, which of the following maxim would you think to correct about the problem of discipline?
- (A) The child should be trained to practice restraint with only limited freedom
 - (B) Discipline should be imposed from outsiders and teachers with full control
 - (C) The child should be allowed full-freedom without any restraint
 - (D) The child is subjected to fear and control to train him to desist from doing wrong
- 189.** Fundamental duties of citizens were provided
- (A) Education department
 - (B) By the school principle
 - (C) H.R.D. Ministry
 - (D) In the Constitution of India
- 190.** Afferent nerve fibres carry impulses from
- (A) Effectors organs to CNS
 - (B) CNS to receptor
 - (C) Receptors to CNS
 - (D) CNS to muscles
- 191.** Education cultivates faculties which are
- (A) Moral
 - (B) Aesthetic
 - (C) Intellectual
 - (D) All of these
- 192.** Object of education according to Durkhime is
- (A) Cultivate physical activities
 - (B) Awaken the child to learn
 - (C) Games and competition
 - (D) All of the above
- 193.** Which of the following statement is incorrect?
- (A) In U.S.A., in the year 1937, the Federal Government felt the necessity of population education in order to check the decline of population and to increase the same. But gradually that country felt the need of such education in order to check the high growth of population. Thus the term population education is applied either to increase or to decrease the rate of growth of population as per the need of situation of a nation of the world.
 - (B) 'Population Education', which is one of the recent topics that we have introduced in our syllabus, was first used in Sweden in 1935, when the population education commission of the country to generate public awareness about the increase of the rate of growth
 - (C) The purpose of population education is to develop awareness and understanding of the relations between population growth and national development both in short and long run and to develop and understanding of the consequences of individual decisions in the important area of reproductive behaviour. A population awareness programme, therefore, should be provided the facts of population dynamic, of family life, of human reproduction that children will need.
 - (D) None of these
- 194.** Nerve transmission is
- (A) Mechanical process
 - (B) Chemical process
 - (C) Biological process
 - (D) Physical process

- 195.** In the Rajya Sabha, the States have been provided
- Equal representation
 - Representation on the 'basis of population
 - Representation on the basis of population and size
 - Representation on the basis of size
- 196.** The Controller and Auditor-General of India acts as the chief accountant and auditor for the
- Union Government
 - State Governments
 - Union and State Governments
 - Neither Union nor State Governments
- 197.** Education is a subject in the
- Union list
 - State list
 - Concurrent list
 - None of the lists
- 198.** In which of the following states was the Panchayati Raj first introduced?
- Rajasthan
 - Gujarat
 - Uttar Pradesh
 - Bihar
- 199.** Which Writ is issued by a High Court or the Supreme Court to compel an authority to perform a function that it was not performing?
- Writ of certiorari
 - Writ of Habeas Corpus
 - Writ of Mandamus
 - Writ of Quo Warrant
- 200.** A ganglion connected with spinal reflex is present in
- White matter around grey matter of spinal cord
 - Dorsal root of a spinal nerve
 - Ventral horn of grey matter
 - Ventral root of a spinal nerve

6.16 Previous year questions

- 1.** Which of the following universities/institutes is ranked first in the India Rankings 2016?
- Jawaharlal Nehru University, New Delhi
 - Central University, Hyderabad
 - Indian Institute of Science, Bangalore
 - Institute of Chemical Technology, Mumbai
- 2.** Which of the following statements are correct about distance education in India?
- It supplements formal education.
 - It reduces the cost of education.
 - It replaces the formal education.
 - It enhances access to education. Select the correct answer from the codes given below:
- Codes:
- (a),(b), (c) and (d)
 - (a),(c) and (d)
 - (a),(b) and (d)
 - (b),(c) and (d)
- 3.** Which of the following are statutory bodies?
- Election Commission of India
 - University Grants Commission (UGC)
 - All India Council for Technical Education (AICTE)
 - National Assessment and Accreditation Council (NAAC)

Select the correct answer from the codes given below: Codes:

- (A) (a),(b) and (c)
- (B) (b),(c) and (d)
- (C) (b) and (c)
- (D) (b) and (d)

4. Which of the following statements are not correct in respect of Rajya Sabha?

- a) It has same powers as those of Lok Sabha.
- b) It can pass a vote of no-confidence against the Council of Ministers.
- c) It can amend a money bill.
- d) It can be dissolved during emergency.

Select the correct answer from the codes given below: Codes:

- (A) (b) and (c)
- (B) (b),(c) and (d)
- (C) (a),(b) and (c)
- (D) (a),(b), (c) and (d)

5. Which of the following statement(s) is/are correct about the powers of the Governor of a State?

- a) He has the power to dissolve the Legislative Assembly.
- b) He has the power to appoint judges of the State High Court.
- c) He has the power to grant pardon in case of death sentence.
- d) He has diplomatic powers.

Select the correct answer from the codes given below : Codes :

- (A) (a) only
- (B) (a) and (b)
- (C) (a),(b) and (d)
- (D) (a),(b) and (c)

6. In which of the following cases, the principle of natural justice (Hear the other party) must be followed?

- a) Dismissal of an employee

- b) Supersession of a municipality
- c) Threat to national security
- d) Disciplinary action against a student or an employee

Select the correct answer from the codes given below : Codes :

- (A) (a) and (b)
- (B) (a) and (d)
- (C) (a),(b) and (d)
- (D) (a),(b), (c) and (d)

7. Which of the following core value among the institutions of higher education are promoted by the NAAC (National Assessment and Accreditation Council)?

- a) Contributing to national development.
- b) Fostering global competencies among the students.
- c) Inculcating a value system among students.
- d) Promoting the optimum utilization of the infrastructure.

Select the correct answer from the codes given below: Codes:

- (A) (b),(c) and (d)
- (B) (a),(b) and (c)
- (C) (a),(c) and (d)
- (D) (a),(b), (c) and (d)

8. Which of the following statements about the Indian political system is/are correct?

- a) The president is both Head of the State and Head of the Government.
- b) Parliament is Supreme.
- c) The Supreme Court is the guardian of the Constitution.
- d) The Directive Principles of State Policy are justiciable.

Select the correct answer from the codes given below:

- (A) (a),(b), (c) and (d)
- (B) (b),(c) and (d)

- (C) (b) and(c)
(D) (c)only
- 9.** Which of the following are the fundamental duties?
- To respect the National Flag.
 - To protect and improve the natural environment.
 - For a parent to provide opportunities for education to his/her child.
 - To protect monuments and places of national importance.
- Select the correct answer from the codes given: Codes:
- (A) (a),(b) and (c)
(B) (a),(b) and (d)
(C) (a),(c) and (d)
(D) (a),(b), (c) and (d)
- 10.** Which of the following statements are correct in respect of Niti Aayog?
- It is a constitutional body.
 - It is a statutory body.
 - It is neither a constitutional body nor a statutory body.
 - It is a think-tank.
- Select the correct answer from the codes given below:
- (A) (a) and(d)
(B) (b) and(d)
(C) (c) and(d)
(D) (b),(c) and (d)
- 11.** The best way for providing value education is through
- discussions on scriptural texts
 - lecture/discourses on values
 - seminars/symposia on values
 - mentoring/reflective sessions on values
- 12.** The National Judicial Appointments Commission (NJAC) has been declared unconstitutional by
- The Supreme Court of India
 - The High Court
 - The High Court and the Supreme Court both
 - The President of India
- 13.** The statement the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer Hardware refers to
- Information Technology (IT)
 - Information and Collaborative Technology (ICT)
 - Information and Data Technology (IDT)
 - Artificial Intelligence (AI)
- 14.** Which of the following are the objectives of Rashtriya Uchchatar Shiksha Abhiyan (RUSA)?
- To improve the overall quality of state institutions.
 - To ensure adequate availability of quality faculty.
 - To create new institutions through upgradation of existing autonomous colleges.
 - To downgrade universities with poor infrastructure into autonomous colleges.
- Select the correct answer from the codes given below:
- (A) (a), (b), (c) and (d)
(B) (a), (b) and (c)
(C) (a), (c) and (d)
(D) (a), (b) and (d)
- 15.** The grounds on which discrimination in admission to educational institutions is constitutionally prohibited are
- Religion
 - Sex
 - Place of birth
 - Nationality

- Select the correct answer from the codes given below:
- (A) (b), (c) and (d)
 (B) (a), (b) and (c)
 (C) (a), (b) and (d)
 (D) (a), (b), (c) and (d)
- 16.** Which of the following statements are correct about Lok Sabha ?
- a) The Constitution puts a limit on the size of the Lok Sabha.
 b) The size and shape of the Parliamentary Constituencies is determined by the Election Commission.
 c) First - past - the Postelectoral system is followed.
 d) The Speaker of Lok Sabha does not have a casting vote in case of an equality of votes.
- Select the correct answer from the codes given below:
- (A) (a) and (c)
 (B) (a), b) and (c)
 (C) (a), (c) and (d)
 (D) (a), (b), (c) and (d)
- 17.** Public Order as an item in the Constitution figures in
- (A) the Union List
 (B) the State List
 (C) the Concurrent List
 (D) the Residuary Powers
- 18.** The term of office of the Advocate General of a State is:
- (A) 4 years
 (B) 5 years
 (C) 6 years or 65 years of age whichever is earlier
 (D) not fixed
- 19.** Which among the following States has the highest number of seats in the Lok Sabha?
- (A) Maharashtra
 (B) Rajasthan
 (C) Tamil Nadu
 (D) West Bengal
- 20.** NMEICT stands for:
- (A) National Mission on Education through ICT
 (B) National Mission on E-governance through ICT
 (C) National Mission on E-commerce through ICT
 (D) National Mission on E-learning through ICT
- 21.** The session of the parliament is summoned by
- (A) The President
 (B) The Prime Minister
 (C) The Speaker of the Lok Sabha
 (D) The Speaker of the Lok Sabha and the Chairman of the Rajya Sabha
- 22.** Civil Service Day is celebrated in India on
- (A) 21st April
 (B) 24th April
 (C) 21st June
 (D) 7th July
- 23.** The South Asia University is situated in the city of
- (A) Colombo
 (B) Dhaka
 (C) New Delhi
 (D) Kathmandu
- 24.** The University Grants Commission was established with which of the following aims
- a) Promotion of research and development in higher education.
 b) Identifying and sustaining institutions of potential learning
 c) Capacity building of teachers

- d) Providing autonomy to each and every higher educational institution in India
- (A) (a), (b), (c) and (d)
 (B) (a), (b) and (c)
 (C) (b), (c) and (d)
 (D) (a), (b) and (d)
- 25.** The Gross Enrolment Ratio (GER) in institutions of higher education in India at present (2015) is about
- (A) 8 percent
 (B) 12 percent
 (C) 19 percent
 (D) 23 percent
- 26.** The total number of central universities in India in April 2015 was
- (A) 8
 (B) 14
 (C) 27
 (D) 43
- 27.** The maximum number of fake institutions / universities as identified by the UGC in the year 2014 are in the State / Union territory of
- (A) Bihar
 (B) Uttar Pradesh
 (C) Tamil Nadu
 (D) Delhi
- 28.** Which of the following institutions are empowered to confer or grant degrees under the UGC Act, 1956?
- 1) A university established by an Act of Parliament.
 - 2) A university established by an Act of Legislature.
 - 3) A university/ institution established by a linguistic minority.
 - 4) An institution which is a deemed to be university.
- Select the correct answers from the codes given below:
- (A) 1 and 2
 (B) 1, 2 and 3
 (C) 1, 2 and 4
 (D) 1, 2, 3 and 4
- 29.** MOOC stands for
- (A) Media Online Open Course
 (B) Massachusetts Open Online Course
 (C) Massive Open Online Course
 (D) Myrind Open Online Course
- 30.** Which of the following are the tools of good governance?
- 1) Social Audit
 - 2) Separation of Powers
 - 3) Citizens Charter
 - 4) Right to Information
- Select the correct answer from the codes given below:
- (A) 1, 3 and 4
 (B) 2, 3 and 4
 (C) 1 and 4
 (D) 1, 2, 3, and 4
- 31.** Right to privacy as a Fundamental Right is implied in
- (A) Right to Freedom
 (B) Right to Life and Personal Liberty
 (C) Right to Equality
 (D) Right against Exploitation
- 32.** Which of the following organizations deals with capacity building programme on Educational Planning?
- (A) NCERT
 (B) UGC
 (C) NAAC
 (D) NUEPA
- 33.** Which of the following powers, the President has in relation to Lok Sabha?
- 1) Summoning

- 2) Adjournment-sine die
- 3) Prorogation
- 4) Dissolution

Select the correct answer from the codes given below:

- (A) 1 and 4
 - (B) 1, 2 and 3
 - (C) 1, 3 and 4
 - (D) 1, 2, 3 and 4
- 34.** The interval between two sessions of parliament must not exceed
- (A) 3 months
 - (B) 6 months
 - (C) 4 months
 - (D) 100 days
- 35.** Who among the following is the defacto executive head of the planning Commission?
- (A) Chairman
 - (B) Deputy Chairman
 - (C) Minister of State of Planning
 - (D) Member Secretary
- 36.** Education as a subject of legislation figures in the
- (A) Union List
 - (B) State List
 - (C) Concurrent List
 - (D) Residuary Powers
- 37.** Which of the following are Central Universities?
- 1) Pondicherry University
 - 2) Vishwa Bharati
 - 3) H.N.B. Garhwal University
 - 4) Kurukshetra University
- Select the correct answer from the code given below:
- (A) 1, 2 and 3
 - (B) 1, 3 and 4
 - (C) 2, 3 and 4
 - (D) 1, 2 and 4

- 38.** Consider the statement which is followed by two arguments (i) and (ii).

Statement: India should have a very strong and powerful Lokpal.

Arguments:

- (i) Yes, it will go a long way in eliminating corruption in bureaucracy.
- (ii) No; it will discourage honest officers from making quick decisions.

- (A) Only argument (i) is strong.
- (B) Only argument (ii) is strong.
- (C) Both the arguments are strong.
- (D) Neither of the arguments is strong.

- 39.** Which of the following universities has adopted the meta university concept?

- (A) Assam University
- (B) Delhi University
- (C) Hyderabad University
- (D) Pondicherry University

- 40.** Which of the following statements are correct about a Central University?

- 1) Central University is established under an Act of Parliament.
- 2) The President of India acts as the visitor of the University.
- 3) President has the power to nominate some members to the Executive Committee or the Board of Management of the University.
- 4) The President occasionally presides over the meetings of the Executive Committee or Court.

Select the correct answer from the code given below: Codes:

- (A) 1, 2 and 4
- (B) 1, 3 and 4
- (C) 1, 2 and 3
- (D) 1, 2, 3 and 4

- 41.** Which one of the following Councils has been disbanded in 2013?
- (A) Distance Education Council (DEC)
 (B) National Council for Teacher Education (NCTE)
 (C) National Council of Educational Research and Training (NCERT)
 (D) National Assessment and Accreditation Council (NAAC)

- 42.** Which of the following statements are correct about the National Assessment and Accreditation Council?

- 1) It is an autonomous institution.
- 2) It is tasked with the responsibility of assessing and accrediting institutions of higher education.
- 3) It is located in Delhi.
- 4) It has regional offices.

Select the correct answer from the codes given below: Codes :

- (A) 1 and 3
 (B) 1 and 2
 (C) 1, 2 and 4
 (D) 2, 3 and 4

- 43.** The power of the Supreme Court of India to decide disputes between two or more States falls under its
- (A) Advisory Jurisdiction
 (B) Appellate Jurisdiction
 (C) Original Jurisdiction
 (D) Writ Jurisdiction

- 44.** Which of the following statements are correct?

- 1) There are seven Union Territories in India.
- 2) Two Union Territories have Legislative Assemblies
- 3) One Union Territory has a High Court.
- 4) One Union Territory is the capital of two States.

Select the correct answer from the codes given below

- (A) 1 and 3 only
 (B) 2 and 4 only
 (C) 2, 3 and 4 only
 (D) 1, 2, 3 and 4

- 45.** Which of the following statements are correct about the Central Information Commission?

- 1) The Central Information Commission is a statutory body.
- 2) The chief Information Commissioner and other Information Commissioners are appointed by the president of India.
- 3) The Commission can impose a penalty upto a maximum of Rs 25,000
- 4) It can punish an errant officer.

Select the correct answer from the codes given below: Codes:

- (A) 1 and 2 only
 (B) 1, 2 and 4
 (C) 1, 2 and 3
 (D) 2, 3 and 4

- 46.** Who among the following conducted the CNN-IBN - The Hindu 2013 Election Tracker Survey across 267 constituencies in 18 States?

- (A) The Centre for the Study of Developing Societies (CSDS)
 (B) The Association for Democratic Reforms (ADR)
 (C) CNN and IBN
 (D) CNN, IBN and The Hindu

- 47.** Which of the following is/are a minority institution(s)?

- 1) Punjabi University, Patiala
- 2) Osmania University, Hyderabad
- 3) Kashmir University, Srinagar
- 4) St. Stephens College, Delhi

Select the correct answer from the code given below :Codes :

- (A) 1 and 2
- (B) 2 and 4
- (C) 2 only
- (D) 4 only

48. Which of the following statements are correct about the National Advisory Council (NAC) ?

- 1) The National Advisory Council is a statutory body.
- 2) It is headed by the Prime Minister of India.
- 3) It facilitates constant interaction with the leaders of civil society.
- 4) It provides policy and legislative inputs to the Government of India.

Select the correct answer from the code given below :Codes :

- (A) 1, 2 and 3
- (B) 2, 3 and 4
- (C) 1, 3 and 4
- (D) 3 and 4

49. Which of the following are voluntary provisions in the 73rd Constitutional Amendment Act (1992) ?

- 1) Minimum age of 21 for contesting elections to Panchayats.
- 2) Indirect elections to the post of Chairperson of Panchayats at the intermediate and district levels.
- 3) Representation of Members of Parliament and State Legislature on Panchayati Raj institutions.
- 4) Reservation of seats for backward classes.

Select the correct answer from the code given below :Codes :

- (A) 1, 2 and 4
- (B) 2, 3 and 4
- (C) 1, 2 and 3
- (D) 3 and 4

50. In which of the following States the segment of population, which is in majority, enjoys the benefit of reservation of seats in the State Assembly ?

- (A) Meghalaya and Mizoram
- (B) Assam and Nagaland
- (C) Madhya Pradesh and Assam
- (D) Rajasthan and Arunachal Pradesh

51. Which of the following are the ways of acquiring Indian citizenship ?

- 1) Birth
- 2) Descent
- 3) Naturalisation
- 4) Incorporation of territory

Select the correct answer from the code given below :Codes :

- (A) 1 and 2
- (B) 1 and 4
- (C) 1, 2 and 3
- (D) 1, 2, 3 and 4

52. Which of the following statements about the Union Public Service Commission are correct ?

- 1) UPSC is a Constitutional body.
- 2) It serves as an advisory body.
- 3) It is called upon to advise the Government in regard to representation of the Scheduled Castes and Scheduled Tribes in the Civil Service.
- 4) It is consulted on appointments of Chairman and members of Tribunals and Commissions.

Select the correct answer from the code given below :Codes :

- (A) 1, 2 and 3
- (B) 1, 2 and 4
- (C) 1, 3 and 4
- (D) 1 and 2

- 53.** In which of the following categories the enrolment of students in higher education in 2010-11 was beyond the percentage of seats reserved?
 (A) OBC students
 (B) SC students
 (C) ST students
 (D) Women students
- 54.** Which one of the following statements is not correct about the University Grants Commission (UGC)?
 (A) It was established in 1956 by an Act of Parliament.
 (B) It is tasked with promoting and coordinating higher education.
 (C) It receives Plan and Non-Plan funds from the Central Government.
 (D) It receives funds from State Governments in respect of State Universities.
- 55.** Consider the statement which is followed by two arguments (I) and (II):
 Statement:
 Should India switch over to a two party system?
 Arguments:
 (I) Yes, it will lead to stability of Government.
 (II) No, it will limit the choice of voters.
 (A) Only argument (I) is strong.
 (B) Only argument (II) is strong.
 (C) Both the arguments are strong.
 (D) Neither of the arguments is strong.
- 56.** Consider the statement which is followed by two arguments (I) and (II):
 Statement:
 Should persons with criminal background be banned from contesting elections?
 Arguments:
 (I) Yes, it will decriminalize politics.
 (II) No, it will encourage the ruling party to file frivolous cases against their political opponents.
 (A) Only argument (I) is strong.
 (B) Only argument (II) is strong.
 (C) Both the arguments are strong.
 (D) Neither of the arguments is strong.
- 57.** Which of the following statement(s) is/are correct about a Judge of the Supreme Court of India?
 1) A Judge of the Supreme Court is appointed by the President of India.
 2) He holds office during the pleasure of the President.
 3) He can be suspended, pending an inquiry.
 4) He can be removed for proven misbehavior or incapacity.
 Select the correct answer from the codes given below: Codes:
 (A) 1, 2 and 3
 (B) 1, 3 and 4
 (C) 1 and 3
 (D) 1 and 4
- 58.** In the warrant of precedence, the Speaker of the Lok Sabha comes next only to
 (A) The President
 (B) The Vice-President
 (C) The Prime Minister
 (D) The Cabinet Ministers
- 59.** Which of the following statement(s) is/are not correct about the Attorney General of India?
 1) The President appoints a person, who is qualified to be a Judge of a High Court, to be the Attorney General of India.
 2) He has the right of audience in all the Courts of the country.
 3) He has the right to take part in the proceedings of the Lok Sabha and the Rajya Sabha.
 4) He has a fixed tenure.

Select the correct answer from the codes given below :Codes :

- (A) 1 and 4
- (B) 2, 3 and 4
- (C) 3 and 4
- (D) 3 only

60. Which of the following prefix President Pranab Mukherjee desires to be discontinued while interacting with Indian dignitaries as well as in official notings ?

- 1) His Excellency
- 2) Mahamahim
- 3) Honble
- 4) Shri/Smt.

Select the correct answer from the codes given below :Codes :

- (A) 1 and 3
- (B) 2 and 3
- (C) 1 and 2
- (D) 1, 2 and 3

61. Which of the following can be done under conditions of financial emergency?

- 1) State Legislative Assemblies can be abolished.
- 2) Central Government can acquire control over the budget and expenditure of States.
- 3) Salaries of the Judges of the High Courts and the Supreme Court can be reduced.
- 4) Right to Constitutional Remedies can be suspended.

Select the correct answer from the codes given below:Codes:

- (A) 1, 2 and 3
- (B) 2, 3 and 4
- (C) 1 and 2
- (D) 2 and 3

62. Match List I with List II and select the correct answer from the codes given below:

List I	List II
(a) Poverty Reduction Programme	(i) Mid-day Meals
(b) Human Development Scheme	(ii) Indira Awas Yojana (IAY)
(c) Social Assistance Scheme	(iii) National Old Age Pension (NOAP)
(d) Minimum Need Scheme	(iv) MNREGA

Codes : (a) (b) (c) (d)

- (A) (iv) (i)(iii) (ii)
- (B) (ii) (iii)(iv) (i)
- (C) (iii) (iv)(i) (ii)
- (D) (iv) (iii)(ii) (i)

63. India has the highest number of students in colleges after

- (A) the U.K.
- (B) the U.S.A.
- (C) Australia
- (D) Canada

64. Indian Institute of Advanced Study is located at

- (A) Dharmshala
- (B) Shimla
- (C) Solan
- (D) Chandigarh

65. Indicate the number of Regional Offices of National Council of Teacher Education.

- (A) 04
- (B) 05
- (C) 06
- (D) 08

66. Which of the following rights was considered the Heart and Soul of the Indian Constitution by Dr. B.R. Ambedkar ?

- (A) Freedom of Speech

- (B) Right to Equality
(C) Right to Freedom of Religion
(D) Right to Constitutional Remedies
- 67.** Who among the following created the office of the District Collector in India ?
(A) Lord Cornwallis
(B) Warren Hastings
(C) The Royal Commission on Decentralisation
(D) Sir Charles Metcalfe
- 68.** The Fundamental Duties of a citizen include
1) Respect for the Constitution, the National Flag and the National Anthem
2) To develop the scientific temper.
3) Respect for the Government.
4) To protect Wildlife.
- Choose the correct answer from the codes given below : Codes :
- (A) 1, 2 and 3
(B) 1, 2 and 4
(C) 2, 3 and 4
(D) 1, 3, 4 and 2
- 69.** The President of India takes oath
(A) to uphold the sovereignty and integrity of India.
(B) to bear true faith and allegiance to the Constitution of India.
(C) to uphold the Constitution and Laws of the country.
(D) to preserve, protect and defend the Constitution and the law of the country.
- 70.** The aim of value education to inculcate in students is
(A) the moral values
(B) the social values
(C) the political values
(D) the economic values
- 71.** Indicate the number of Regional Offices of University Grants Commission of India.
(A) 10
(B) 07
(C) 08
(D) 09
- 72.** One-rupee currency note in India bears the signature of
(A) The President of India
(B) Finance Minister of India
(C) Governor, Reserve Bank of India
(D) Finance Secretary of Government of India
- 73.** Match the List I with the List II and select the correct answer from the codes given below:
- | List I (Commissions and Committees) | List II (Year) |
|--|----------------|
| (a) First Administrative Reforms Commission | (i) 2005 |
| (b) Paul H. Appleby Committee I | (ii) 1962 |
| (c) K. Santhanam Committee | (iii) 1966 |
| (d) Second Administrative Reforms Commission | (iv) 1953 |
- (A) (i) (iii) (ii) (iv)
(B) (iii) (iv) (ii) (i)
(C) (iv) (ii) (iii) (i)
(D) (ii) (i) (iv) (iii)
- 74.** Constitutionally the registration and recognition of political parties is the function performed by

- (A) The State Election Commission of respective States
 (B) The Law Ministry of Government of India
 (C) The Election Commission of India
 (D) Election Department of the State Governments
- 75.** The members of Gram Sabha are
 (A) Sarpanch, Upsarpanch and allelected Panchas
 (B) Sarpanch, Upsarpanch and Village level worker
 (C) Sarpanch, Gram Sevak and elected Panchas
 (D) Registered voters of Village Panchayat
- 76.** The first Open University in India was set up in the State of
 (A) Andhra Pradesh
 (B) Delhi
 (C) Himachal Pradesh
 (D) Tamil Nadu
- 77.** Most of the Universities in India are funded by
 (A) the Central Government
 (B) the State Governments
 (C) the University Grants Commission
 (D) Private bodies and Individuals
- 78.** Which of the following organizations looks after the quality of Technical and Management education in India ?
 (A) NCTE
 (B) MCI
 (C) AICTE
 (D) CSIR
- 79.** Consider the following statements : Identify the statement which implies natural justice.
 (A) The principle of natural justice is followed by the Courts.
 (B) Justice delayed is justice denied.
 (C) Natural justice is an inalienable right of a citizen
 (D) A reasonable opportunity of being heard must be given.
- 80.** The President of India is
 (A) The Head of State
 (B) The Head of Government
 (C) Both Head of the State and the Head of the Government
 (D) None of the above
- 81.** Who among the following holds office during the pleasure of the President of India ?
 (A) Chief Election Commissioner
 (B) Comptroller and Auditor General of India
 (C) Chairman of the Union Public Service Commission
 (D) Governor of a State
- 82.** India's first Defence University is in the State of
 (A) Haryana
 (B) Andhra Pradesh
 (C) Uttar Pradesh
 (D) Punjab
- 83.** Most of the Universities in India
 (A) conduct teaching and research only
 (B) affiliate colleges and conduct examinations
 (C) conduct teaching/research and examinations
 (D) promote research only
- 84.** Which one of the following is not a Constitutional Body?
 (A) Election Commission
 (B) Finance Commission
 (C) Union Public Service Commission
 (D) Planning Commission

- 85.** Which one of the following statements is not correct?
- (A) Indian Parliament is supreme.
 (B) The Supreme Court of India has the power of judicial review.
 (C) There is a division of powers between the Centre and the States.
 (D) There is a Council of Ministers to aid and advise the President.
- 86.** Which one of the following statements reflects the republican character of Indian democracy?
- (A) Written Constitution
 (B) No State religion
 (C) Devolution of power to local Government institutions
 (D) Elected President and directly or indirectly elected Parliament
- 87.** Who among the following appointed by the Governor can be removed by only the President of India?
- (A) Chief Minister of a State
 (B) A member of the State Public Service Commission
 (C) Advocate-General
 (D) Vice-Chancellor of a State University
- 88.** The Right to Information Act, 2005 makes the provision of
- (A) Dissemination of all types of information by all Public authorities to any person.
 (B) Establishment of Central, State and District Level Information Commissions as an appellate body.
 (C) Transparency and accountability in Public authorities.
 (D) All of the above
- 89.** The accreditation process by National Assessment and Accreditation Council (NAAC) differs from that of National Board of Accreditation (NBA) in terms of
- (A) Disciplines covered by both being the same, there is duplication of efforts.
 (B) One has institutional grading approach and the other has programme grading approach.
 (C) Once get accredited by NBA or NAAC, the institution is free from renewal of grading, which is not a progressive decision.
 (D) This accreditation amounts to approval of minimum standards in the quality of education in the institution concerned.
- 90.** Which option is not correct?
- (A) Most of the educational institutions of National repute in scientific and technical sphere fall under 64th entry of Union list.
 (B) Education, in general, is the subject of concurrent list since 42nd Constitutional Amendment Act 1976.
 (C) Central Advisory Board on Education (CABE) was first established in 1920.
 (D) India had implemented the right to Free and Compulsory Primary Education in 2002 through 86th Constitutional Amendment.
- 91.** Which statement is not correct about the National Education Day of India?
- (A) It is celebrated on 5th September every year.
 (B) It is celebrated on 11th November every year.
 (C) It is celebrated in the memory of India's first Union Minister of Education, Dr. Abul Kalam Azad.
 (D) It is being celebrated since 2008
- 92.** Match List-I with List-II and select the correct answer from the codes given below:

List I (Articles of the Constitution)	List II (Institutions)
(a) Article 280	(i) Administrative Tribunals
(b) Article 324	(ii) Election Commission of India
(c) Article 323	(iii) Finance Commission at Union level
(d) Article 315	(iv) Union Public Service Commission

Codes : (a) (b) (c) (d)

(A) (i) (ii) (iii) (iv)

(B) (iii) (ii) (i) (iv)

(C) (ii) (iii) (iv) (i)

(D) (ii) (iv) (iii) (i)

93. Deemed Universities declared by UGC under Section 3 of the UGC Act 1956, are not permitted to

(A) Offer programmes in higher education and issue degrees.

(B) give affiliation to any institute of higher education.

(C) open off-campus and off-shore campus anywhere in the country and overseas respectively without the permission of the UGC.

(D) offer distance education programmes without the approval of the Distance Education Council

94. The University which telecasts interaction educational programmes through its own channel is

(A) Osmania University

(B) University of Pune

(C) Annamalai University

(D) Indira Gandhi National Open University (IGNOU)

95. Who has signed an MOU for Accreditation of Teacher Education Institutions in India?

(A) NAAC and UGC

(B) NCTE and NAAC

(C) UGC and NCTE

(D) NCTE and IGNOU

96. The recommendation of National Knowledge Commission for the establishment of 1500 Universities is to

(A) create more teaching jobs

(B) ensure increase in student enrolment in higher education

(C) replace or substitute the privately managed higher education institutions by public institutions

(D) enable increased movement of students from rural areas to urban areas

97. According to Article 120 of the Constitution of India, the business in Parliament shall be transacted in

(A) English only

(B) Hindi only

(C) English and Hindi both

(D) All the languages included in Eighth Schedule of the Constitution

98. Which of the following is more interactive and student centric?

(A) Seminar

(B) Workshop

(C) Lecture

(D) Group Discussion

99. The Parliament in India is composed of

(A) Lok Sabha & Rajya Sabha

(B) Lok Sabha, Rajya Sabha & Vice President

(C) Lok Sabha, Rajya Sabha & President

(D) Lok Sabha, Rajya Sabha with their Secretariats

- 100.** The enrolment in higher education in India is contributed both by Formal System of Education and by System of Distance Education. Distance education contributes
- (A) 50% of formal system
 (B) 25% of formal system
 (C) 10% of the formal system
 (D) Distance education systems contribution is not taken into account while considering the figures of enrolment in higher education
- 101.** Assertion (A) : The U.G.C. Academic Staff Colleges came into existence to improve the quality of teachers. Reason (R): University and college teachers have to undergo both orientation and refresher courses.
- (A) Both (A) and (R) are true and (R) is the correct explanation.
 (B) Both (A) and (R) are correct but (R) is not the correct explanation of (A) .
 (C) (A) is correct and (R) is false.
 (D) (A) is false and (R) is correct.
- 102.** The Kothari Commission's report was entitled on:
- (A) Education and National Development
 (B) Learning to be adventure
 (C) Diversification of Education
 (D) Education and socialization in democracy
- 103.** Which of the following is not a Dual mode University?
- (A) Delhi University
 (B) Bangalore University
 (C) Madras University
 (D) Indira Gandhi National Open University
- 104.** Which part of the Constitution of India is known as "Code of Administrators"?
- (A) Part I
 (B) Part II
 (C) Part III
 (D) Part IV
- 105.** Which article of the constitution provides safeguards to Naga Customary and their social practices against any act of Parliament?
- (A) Article 371 A
 (B) Article 371 B
 (C) Article 371 C
 (D) Article 263
- 106.** Which one of the following is not the tool of good governance?
- (A) Right to information
 (B) Citizens' Charter
 (C) Social Auditing
 (D) Judicial Activism
- 107.** According to Radhakrishnan Commission, the aim of Higher Education is:
- (A) To develop the democratic values, peace and harmony
 (B) To develop great personalities who can give their contributions in politics, administration, industry and commerce
 (C) Both
 (D) and
 (E)
 (F) None of these
- 108.** The National Museum at New Delhi is attached to:
- (A) Delhi University
 (B) a Deemed University
 (C) a Subordinate Office of the JNU
 (D) Part of Ministry of Tourism and Culture
- 109.** Match List-I with List-II and select the correct answer from the code given below:

List-I (Institutions)	List-II (Locations)
(a) National Law Institute	(i) Shimla
(b) Indian Institute of Advanced Studies	(ii) Bhopal
(c) National Judicial Academy	(iii) Hyderabad
(d) National Savings Institute	(iv) Nagpur

Codes: (a) (b) (c) (d)

(A) (iii) (ii) (iv) (i)

(B) (i) (ii) (iii) (iv)

(C) (iv) (iii) (i) (ii)

(D) (iii) (i) (ii) (iv)

110. Election of Rural and Urban local bodies are conducted and ultimately supervised by:

(A) Election Commission of India

(B) State Election Commission

(C) District Collector and District Magistrate

(D) Concerned Returning Officer

111. Which opinion is not correct?

(A) Education is a subject of concurrent list of VII schedule of Constitution of India

(B) University Grants Commission is a statutory body

(C) Patent, inventions, design, copyright and trademarks are the subject of concurrent list

(D) Indian Council of Social Science Research is a statutory body related to research in social sciences

112. NAAC is an autonomous institution under the aegis of:

(A) ICSSR

(B) CSIR

(C) AICTE

(D) UGC

113. National Council for Women's Education was established in:

(A) 1958

(B) 1976

(C) 1989

(D) 2000

114. Which one of the following is not situated in New Delhi?

(A) Indian Council of Cultural Relations

(B) Indian Council of Scientific Research

(C) National Council of Educational Research and Training

(D) Indian Institute of Advanced Studies

115. Autonomy in higher education implies freedom in:

(A) Administration

(B) Policy-making

(C) Finance

(D) Curriculum development

116. Match List-I with List-II and select the correct answer from the code given below:

List-I (Institutions)	List-II (Locations)
(a) Dr. Hari Singh Gour University	(i) Mumbai
(b) S.N.D.T. University	(ii) Baroda
(c) M.S. University	(iii) Jodhpur
(d) J.N. Vyas University	(iv) Sagar

Codes: (a) (b) (c) (d)

(A) (iv) (i) (ii) (iii)

(B) (i) (ii) (vi) (iv)

(C) (iii) (i) (ii) (iv)

(D) (ii) (iv) (i) (iii)

- 117.** The first Indian Satellite for serving the educational sector is known as:
- (A) SATEDU
(B) INSAT - B
(C) EDUSAT
(D) INSAT-C
- 118.** Exclusive educational channel of IGNOU is known as:
- (A) GyanDarshan
(B) Cyan Vani
(C) DoorDarshan
(D) Prasar Bharati
- 119.** The head quarter of Mahatma Gandhi Antarrashtriya Hindi Vishwavidyalaya is situated in:
- (A) Sevagram
(B) New Delhi
(C) Wardha
(D) Ahmedabad
- 120.** Match List - I with List - II and select the correct answer using the codes given below:
- | List-I (Institutes) | List-II (Locations) |
|---|--------------------------------------|
| (a) Central Institute of English | (i) Chitrakoot and Foreign Languages |
| (b) Gramodaya Vishwavidyalaya | (ii) Hyderabad |
| (c) Central Institute of Higher Tibetan Studies | (iii) New Delhi |
| (d) IGNOU | (iv) Dhar-masala |
- Codes: (a) (b) (c) (d)
- (A) (ii) (i) (iv) (iii)
(B) (iv) (iii) (ii) (i)
(C) (iii) (iv) (i) (ii)
(D) (i) (ii) (iv) (iii)
- 121.** The aim of vocationalization of education is:
- (A) preparing students for a vocation along with knowledge
(B) converting liberal education into vocational education
(C) giving more importance to vocational than general education
(D) making liberal education job-oriented
- 122.** Value education makes a student:
- (A) Good citizen
(B) Successful businessman
(C) Popular teacher
(D) Efficient manager
- 123.** Networking of libraries through electronic media is known as:
- (A) Inflightnet
(B) Libinfnet
(C) Internet
(D) HTML
- 124.** The University which telecasts interactive educational programmes through its own channel is:
- (A) B. R. Ambedkar Open University, Hyderabad
(B) I.G.N.O.U.
(C) University of Pune
(D) Annamalai University
- 125.** The Government established the University Grants Commission by an Act of Parliament in the year:
- (A) 1980
(B) 1948
(C) 1950
(D) 1956
- 126.** Universities having central campus for imparting education are called:
- (A) Central Universities
(B) Deemed Universities
(C) Residential Universities
(D) Open Universities

- 127.** The University Grants Commission was constituted on the recommendation of:
- (A) Dr. Sarvapalli Radhakrishnan Commission
(B) Mudaliar Commission
(C) Sargent Commission
(D) Kothari Commission
- 128.** Which one of the following Articles of the Constitution of India safeguards the rights of Minorities to establish and run educational institutions of their own liking?
- (A) Article 19
(B) Article 29
(C) Article 30
(D) Article 31
- 129.** Match List - I (Institutions) with List - II (Functions) and select the correct answer by using the code given below:
- | List I (Institutions) | List- II (Functions) |
|---------------------------|--------------------------------|
| (a) Parliament | (i) Formulation of Budget |
| (b) C .A.G. | (ii) Enactment of Budget |
| (c) Ministry of Finance | (iii) Implementation of Budget |
| (d) Executing Departments | (iv) Legality of expenditure |
| | (v) Justification of Income |
- Code: (a) (b) (c) (d)
- (A) (iii) (iv) (ii) (i)
(B) (ii) (iv) (i) (iii)
(C) (v) (iii) (iv) (ii)
(D) (iv) (ii) (iii) (v)
- 130.** Foundation training to the newly recruited IAS (Probationers) is imparted by:
- (A) Indian Institute of Public Administration
(B) Administrative Staff College of India
(C) L.B.S. National Academy of Administration
(D) Centre for Advanced Studies
- 131.** Electoral disputes arising out of Presidential and Vice-Presidential Elections are settled by:
- (A) Election Commission of India
(B) Joint Committee of Parliament
(C) Supreme Court of India
(D) Central Election Tribunal
- 132.** Human Development Report for each of the year at global level has been published by:
- (A) UNDP
(B) WTO
(C) IMF
(D) World Bank
- 133.** The Chief Election Commissioner can be removed from his office under Article:
- (A) 125
(B) 352
(C) 226
(D) 324
- 134.** Who among the following can be asked to make a statement in Indian Parliament?
- (A) Any MLA
(B) Chief of Army Staff
(C) Solicitor General of India
(D) Mayor of Delhi
- 135.** Which of the following conclusions is logically valid based on statement given below?
Statement: Most of the Indian states existed before independence.
Conclusions:

- (I) Some Indian States existed before independence.
 (II) All Indian States did not exist before independence.
- (A) only (I) is implied
 (B) only (II) is implied
 (C) Both (I) and (II) are implied
 (D) Neither (I) nor (II) is implied
- 136.** What is the name of the Research station established by the Indian Government for 'Conducting Research at Antarctic'?
- (A) Dakshin Gangotri
 (B) Yamunotri
 (C) Uttari Gangotri
 (D) None of the above
- 137.** Ministry of Human Resource Development (HRD) includes:
- (A) Department of Elementary Education and Literacy
 (B) Department of Secondary Education and Higher Education
 (C) Department of Women and Child Development
 (D) All the above
- 138.** Parliament can legislate on matters listed in the State list:
- (A) With the prior permission of the President.
 (B) Only after the constitution is amended suitably.
 (C) In case of inconsistency among State legislatures.
 (D) At the request of two or more States.
- 139.** Which of the following institutions in the field of education is set up by the MHRD-Government of India?
- (A) Indian Council of World Affairs, New Delhi
 (B) Mythic Society, Bangalore
 (C) National Bal Bhawan, New Delhi
 (D) India International Centre, New Delhi
- 140.** The launch of satellite channel by IGNOU on 26th January 2003 for technological education for the growth and development of distance education is:
- (A) Eklavya channel
 (B) Gyandarshan channel
 (C) Rajrishi channel
 (D) None of these
- 141.** Match List - I with List-II and select the correct answer from the code given below:
- | List - I (Institutions) | List - II (Locations) |
|--|-----------------------|
| (a) The Indian Council of Historical Research (ICHR)(i) Shimla | |
| (b) The Indian Institute of Advanced Studies (IIAS) | (ii) New Delhi |
| (c) The Indian Council of Philosophical Research (ICPR) | (iii) Bangalore |
| (d) The Central Institute of Coastal Engineering for fisheries | (iv) Lucknow |
- (A) ii i iv iii
 (B) i ii iii iv
 (C) ii iv i iii
 (D) iv iii ii i
- 142.** Which of the following is not a Fundamental Right?
- (A) Right to equality

- (B) Right against exploitation
 (C) Right of free compulsory education of all children upto the age of 14
 (D) All the above
- 143.** The Lok - Sabha can be dissolved before the expiry of its normal five year term by:
 (A) The Prime Minister
 (B) The Speaker of Lok Sabha
 (C) The President on the recommendation of the Prime Minister
 (D) None of the above
- 144.** In which year the University Grants Commission was established?
 (A) 1948
 (B) 1944
 (C) 1953
 (D) 1960
- 145.** Another name of Basic Education or Nai Talim is :
 (A) Compulsory Education
 (B) New Education Policy
 (C) Wardha Education Plan
 (D) Sarva Shikshya Abhiyan
- 146.** ICT stands for :
 (A) International Communication Technology
 (B) Intera Common Terminology
 (C) Information and Communication Technology
 (D) Inter connected Terminals
- 147.** Which of the following is the appropriate definition of Information Technology?
 (A) Information Technology refers to the use of hardware and software for processing information
 (B) Information Technology refers to the use of hardware and software for distribution of useful information
 (C) Information Technology refers to the use of hardware and software for storage, retrieval, processing and distributing information of many kinds.
 (D) Information Technology refers to the use of principles of Physical sciences and Social sciences for processing of information of many kinds.
- 148.** The Report on Currency and Finance for each of the financial year in India is published by :
 (A) Reserve Bank of India
 (B) Ministry of Finance
 (C) Planning Commission
 (D) Central Statistical Organization
- 149.** The idea of Democratic Decentralisation in India was popularised by:
 (A) A.D. Gorwala Committee, 1951
 (B) Paul H. Appleby Committee, 1953
 (C) B.R. Mehta Committee, 1957
 (D) Ashok Mehta Committee, 1978
- 150.** In India, a political party is recognised as a National or Regional Party by the :
 (A) President of India
 (B) Election Commission of India
 (C) Law ministry in consultation with the Law Commission of India
 (D) Union Parliament in consultation with the State Legislatures
- 151.** Which of the following factor/s is/are responsible for the increase of the role of Government in Developing Countries?
 a) Economic Planning
 b) Rising expectation of people
 c) Privatisation
 d) Emergence of the concept of Welfare State
- Select the most appropriate answer from the codes given below: Codes:
 (A) (a) and (d)
 (B) (a), (b) and (d)
 (C) Only (c)
 (D) Only (d)

7. Polity

- Which of the following has not declared itself as an Islamic Republic ?
 - Pakistan
 - Iran
 - Algeria
 - Saudi Arabia
- China attacked Vietnam because
 - Of armed provocations and encroachment against Chinese territory
 - Of Vietnams alliance with U.S.S.R.
 - Of Vietnams involvement in Kampuchea
 - Of Paracel Islands dispute
- Liberty, Equality and Fraternity, this inspiration was derived from
 - American Revolution
 - French Revolution
 - Russian Revolution
 - None of the above
- Panchayati Raj as introduced in 1959 operates at
 - Samiti and block levels
 - Block and district levels
 - Samiti and district levels
 - Village, block and district levels
- Panchayati Raj administration is primarily aimed
 - To increase agricultural production
 - To ensure rural development
 - To work for the upliftment of Harijans
 - To arouse in the people of each area intensive and continuous interest in the community development programme
- The case of dispute in the presidential election is referred to
 - Chief Election Commissioner
 - Supreme Court
 - Parliament
 - None of these
- The most controversial provision in the 42nd Constitution Amendment is
 - Supremacy of Parliament
 - Enumeration of ten Fundamental Duties
 - Term of Lok Sabha and Legislative Assemblies
 - Primacy to the Directive Principles over the Fundamental Rights

1. D 2. C 3. B 4. D 5. D 6. B 7. D

8. Which of the following States in India has no Legislative Council ?
 (A) Tamil Nadu
 (B) Bihar
 (C) West Bengal
 (D) Maharashtra
9. Which of the following territories is not absolutely independent ?
 (A) Hong Kong
 (B) Singapore
 (C) Switzerland
 (D) Mozambique
10. Who is authorised to decide over a dispute regarding disqualification of a member of Parliament ?
 (A) Election Commissioner
 (B) Speaker of the Lok Sabha
 (C) President of India
 (D) committee set up by the Parliament
11. The two highest gallantry awards in India are
 (A) Param Vir Chakra and Maha Vir Chakra
 (B) Param Vir Chakra and Vir Chakra
 (C) Ashok Chakra and Maha Vir Chakra
 (D) Param Vir Chakra and Ashok Chakra
12. Which of the following Asian languages are UN official languages ?
 (A) Chinese and Japanese
 (B) Chinese and Arabic
 (C) Japanese and Arabic
 (D) Chinese and Hindi
13. The word secular denotes
 (A) Keeping away from all religions
 (B) Freedom of religion and worship to all citizens
 (C) Belief in God
 (D) Practising different religions
14. Which of the following is not included in Fundamental Rights in the Constitution of India ?
 (A) Right to property
 (B) Right to freedom of religion
 (C) Right to vote in all elections
 (D) Right to freedom of speech and expression
15. candidate to become a member of Lok Sabha should not be less than
 (A) 21 years
 (B) 25 years
 (C) 30 years
 (D) 35 years
16. The President of Union of India has the same constitutional authority as the
 (A) British Monarch
 (B) President of U.S. .
 (C) President of Egypt
 (D) President of U.S.S.R.
17. Which of the following is not included in the list of Fundamental Duties in the Constitution ?
 (A) To safeguard public property and to abjure violence
 (B) To uphold and protect the sovereignty, unity and integrity of India
 (C) Secularism
 (D) To abide by the Constitution and respect its ideals
18. Which language has been added recently to the Eighth Schedule of the Constitution of India?
 (A) Urdu
 (B) Sanskrit
 (C) Sindhi
 (D) Assamese

- 19.** The Vice-President of India is elected by
 (A) The people directly
 (B) The members of Lok Sabha and Rajya Sabha
 (C) The members of Rajya Sabha only
 (D) The members of Lok Sabha, Rajya Sabha and State Legislatures
- 20.** In a parliamentary system the executive is responsible
 (A) Directly to the people
 (B) To legislature
 (C) To judiciary
 (D) None of the above
- 21.** The principal language of Nagaland is
 (A) English
 (B) Naga
 (C) Assamese
 (D) Khasi
- 22.** Which of the following is contained in the Concurrent List ?
 (A) Forests
 (B) Education
 (C) Police
 (D) Agriculture
- 23.** The Constitution 44th Amendment (renumbered as 43rd Amendment)
 (A) Ensures the right to property
 (B) Ensures the press freedom
 (C) Limits the powers of the Government to proclaim internal emergency
 (D) Restores to the High Courts and to the Supreme Court their jurisdiction to consider the validity of any Central or State law.
- 24.** What is the power of Rajya Sabha regarding Money Bill ?
 (A) It can amend it
 (B) It can reject it
 (C) It can withhold the bill for 14 days to make recommendations
 (D) It has no power regarding Money Bill
- 25.** The members of Constituent Assembly were
 (A) Elected by the provincial assemblies
 (B) Elected directly by the people
 (C) Nominated by the government
 (D) Only representatives of princely states
- 26.** Which are the two States next to U.P. having maximum representation in Lok Sabha ?
 (A) Bihar and Maharashtra
 (B) Bihar and Madhya Pradesh
 (C) Madhya Pradesh and Tamil Nadu
 (D) Madhya Pradesh and Maharashtra
- 27.** All responsibilities regarding elections in India are entrusted to
 (A) President
 (B) Prime Minister
 (C) Chief Justice
 (D) Chief Election Commissioner
- 28.** In which case a joint session of the Lok Sabha and Rajya Sabha is convened by the President?
 (A) When a Finance Bill is to be passed by the Lok Sabha and the Rajya Sabha with 2/3rd majority
 (B) To impeach the President
 (C) If after a bill has been passed by one House and transmitted to the other House and the bill is rejected by the other House
 (D) All of the above
- 29.** 44th Amendment of the Constitution speaks of
 (A) Right to property as no longer a Fundamental Right

- (B) Suspension of individual liberty during emergency
- (C) Barring the courts from interfering in the disputes regarding the election of Prime Minister
- (D) Giving more importance to Directive Principles over Fundamental Rights.
- 30.** Finance Commission is appointed after every
- (A) 2 years
- (B) 5 years
- (C) 7 years
- (D) 10 years
- 31.** Council of Ministers of the Union of India is responsible to the
- (A) Parliament
- (B) President
- (C) Prime Minister
- (D) Chief Justice
- 32.** candidate to become a member of Lok Sabha should not be less than
- (A) 21 years
- (B) 25 years
- (C) 30 years
- (D) 35 years
- 33.** The word secular denotes
- (A) Keeping away from all religions
- (B) Belief in one God
- (C) Freedom of religion and worship to all citizens
- (D) Practising different religions
- 34.** What is the maximum period during which Parliament may not meet?
- (A) Six months
- (B) One year
- (C) Two years
- (D) Three years
- 35.** Parliament consists of
- (A) Prime Minister and other Ministers
- (B) President, Prime Minister and other Ministers
- (C) President, Rajya Sabha and Lok Sabha
- (D) President, Chief Justice and Lok Sabha
- 36.** Rajya Sabha can delay the Money Bill passed by the Lok Sabha for a period not exceeding
- (A) 9 days
- (B) 14 days
- (C) 15 days
- (D) 30 days
- 37.** How many judges are there in the International Court of Justice ?
- (A) 10
- (B) 12
- (C) 15
- (D) 20
- 38.** The term Fourth Estate refers to
- (A) very backward State
- (B) Judiciary
- (C) Parliament
- (D) Press
- 39.** Whose signatures are found on a hundred rupee note ?
- (A) President of India
- (B) Governor of Reserve Bank of India
- (C) Prime Minister
- (D) Finance Minister
- 40.** Who was the second President of the Indian Republic ?
- (A) Dr. Zakir Hussain
- (B) Dr. S. Radhakrishnan
- (C) Dr. Rajendra Prasad
- (D) None of the above

- 41.** U.S.S.R. stands for
 (A) Union of Secular Socialist Republics
 (B) Union of Sovereign Socialist Republics
 (C) Union of Soviet Secular Republics
 (D) Union of Soviet Socialist Republics
- 42.** Which famous judgement restricted the authority of the Parliament to amend the Constitution so as to damage or destroy its basic or essential features or its basic structure ?
 (A) Golaknath case
 (B) Balananda Saraswati case
 (C) Minerva Mills Ltd. and others case
 (D) Keshvanand Bharti case
- 43.** Which of the following is incorrect?
 (A) 1951-56 First Five-Year Plan
 (B) 1956-61 Second Five-Year Plan
 (C) 1961-66 Third Five-Year Plan
 (D) 1966-71 Fourth Five-Year Plan
- 44.** Panchayati Raj System was introduced in the year
 (A) 1948
 (B) 1959
 (C) 1951
 (D) 1952
- 45.** The dispute regarding the election of Prime Minister and President of India can be decided by
 (A) High Court
 (B) Election Tribunal
 (C) Chief Election Commissioner
 (D) None of the above
- 46.** Rajya Sabha is dissolved once in
 (A) 2 years
 (B) 3 years
 (C) 6 years
 (D) It is never dissolved
- 47.** What is land ceiling ?
 (A) To fix a land area for irrigation purposes
 (B) To fix rural land holdings at the existing level
 (C) To fix urban land holdings at the existing level
 (D) To fix the quantum of land held by a family
- 48.** Directive Principles of State Policy are contained in
 (A) Part I of the Constitution
 (B) Part II of the Constitution
 (C) Part III of the Constitution
 (D) Part IV of the Constitution
- 49.** China has which type of Parliamentary System ?
 (A) One party
 (B) Two-party
 (C) Multi-party
 (D) None of these
- 50.** Which Amendment of the Constitution gave priority to Directive Principles over Fundamental Rights ?
 (A) 36th Amendment
 (B) 38th Amendment
 (C) 40th Amendment
 (D) 42nd Amendment
- 51.** What does secularism mean ?
 (A) State patronising all religions
 (B) State having its own religion
 (C) State having no official religion and citizens are free to follow any religion or faith
 (D) State having one official religion and showing respect to all other religions
- 52.** Which of the following is not a Fundamental Right?
 (A) Right to equality

- (B) Right to property
(C) Right against exploitation
(D) Right to freedom of speech and expression
- 53.** By which Amendment to the Constitution, the Fundamental Duties of the citizens were specified ?
(A) 38th
(B) 40th
(C) 42nd
(D) 44th
- 54.** Acts and Regulations validated by Article 31 are specified in ____ of the Constitution
(A) Concurrent List
(B) State List
(C) Union List
(D) Ninth Schedule
- 55.** President of India is elected by
(A) Lok Sabha
(B) Rajya Sabha
(C) Elected representatives of Lok Sabha, Rajya Sabha and State Legislative Assemblies
(D) People directly
- 56.** The concept of welfare state is included in the Constitution of India in
(A) Preamble
(B) Fundamental Rights
(C) Fourth Schedule
(D) Directive Principles of State Policy
- 57.** How many members can be nominated to the Lok Sabha by the President ?
(A) 2
(B) 4
(C) 5
(D) 12
- 58.** To uphold and protect the sovereignty, unity and integrity of India, a provision has been made in the
(A) Directive Principles of State Policy
(B) Preamble to the Constitution
(C) Fundamental Duties
(D) Fundamental Rights
- 59.** The 45th Amendment to the Indian Constitution relates to
(A) Minorities Commission
(B) Commission for Scheduled Castes and Scheduled Tribes
(C) Extension of reservation of seats for Scheduled Castes and Scheduled Tribes
(D) None of the above
- 60.** Directive Principles of State Policy are included in which part of the Indian Constitution ?
(A) Part IV
(B) Part III
(C) Part II
(D) Part I
- 61.** Which one of the following is not a Fundamental Right ?
(A) Freedom of speech and expression
(B) Right to assemble peaceably and without arms
(C) Right to property
(D) Right to equality
- 62.** The dispute regarding the election of President of India is to be referred to
(A) Chief Election Commissioner
(B) Supreme Court
(C) Parliament
(D) Attorney-General
- 63.** If President wants to resign, he should address his resignation letter to the
(A) Parliament
(B) Prime Minister
(C) Chief Justice of India
(D) Vice-President

- 64.** Council of Ministers of the Union of India is responsible to
 (A) Rajya Sabha
 (B) Prime Minister
 (C) President
 (D) Lok Sabha
- 65.** When a money bill is passed by the Parliament, the President has the power to
 (A) Amend it
 (B) Reject it
 (C) Kept it with him
 (D) Return it for reconsideration
- 66.** Panchayati Raj is mainly aimed at
 (A) Rural employment
 (B) Agricultural and rural industries development
 (C) Political awareness among village people
 (D) Giving training to villagers for fighting elections
- 67.** Which one of the following is part of Preamble of the Constitution of India ?
 (A) We, the people of India, having solemnly resolved to constitute India into a Sovereign Socialist Secular Democratic Republic do hereby Adopt, Enact and Give to ourselves this Constitution
 (B) We, the members of the Parliament, do hereby Adopt, Enact and Give to ourselves this Constitution
 (C) We, the people of Constituent Assembly, do hereby Adopt, Enact and Give to ourselves this Constitution
 (D) None of the above
- 68.** Who decides whether a Bill is a Money Bill or not ?
 (A) Speaker of the Lok Sabha
 (B) President
 (C) Prime Minister
 (D) Vice-President
- 69.** Sarkaria Commission has been set up to study
 (A) Centre-State relations
 (B) Inter-State relations
 (C) Financial aid to States
 (D) Splitting of LIC
- 70.** Being a non-member who among the following can participate in the proceedings of either House of Parliament without having the voting right?
 (A) Vice-President
 (B) Chief Justice of India
 (C) Comptroller & Auditor-General
 (D) Attorney General
- 71.** The Eighth Schedule of Indian Constitution contains
 (A) Fundamental Rights
 (B) Directive Principles
 (C) list of 18 languages recognised by the Constitution
 (D) Number of States and Union Territories
- 72.** Mandal Commission report pertains to other
 (A) Backward Classes
 (B) Minorities
 (C) Scheduled Castes
 (D) Scheduled Tribes
- 73.** good citizen is one who is
 (A) Conscious of social obligations
 (B) Not bothered about anything
 (C) Educated
 (D) Rich in cultural heritage
- 74.** Centre-State financial relations are looked after by the
 (A) Finance Commission
 (B) Sarkaria Commission
 (C) Ministry of Finance
 (D) Planning Commission

- 75.** Who selects persons for appointment to the Central Civil Services in India ?
- (A) President
(B) Prime Minister
(C) Planning Commission
(D) UPSC
- 76.** Panchayati Raj system was adopted to
- (A) Make people aware of politics
(B) Decentralise the power of democracy
(C) Educate the peasants
(D) To introduce a form of local self-government at the village, block and district levels
- 77.** Democracy exists in India. Government is run by the elected representatives of the people. For proper functioning of this system
- (A) One should cast vote in elections
(B) One must be prompt in paying taxes
(C) One must be good to himself and to the society
(D) None of these
- 78.** Which is correct ?
- (A) Lok Sabha cannot be dissolved before 5 years
(B) Rajya Sabha lasts only for 6 years
(C) Lok Sabha can be dissolved before 5 years
(D) Life of Lok Sabha can be extended indefinitely
- 79.** The original structure of the Indian Constitution cannot be changed. In which of the following cases, Supreme Court of India gave this verdict ?
- (A) The Golak Nath case
(B) The Minerva Mills case
(C) The Kesavananda Bharati case
(D) None of the above
- 80.** The President of India is elected indirectly by the electoral college consisting of the elected members of the
- (A) Lok Sabha only
(B) Rajya Sabha only
(C) Lok Sabha and the Rajya Sabha only
(D) Lok Sabha, the Rajya Sabha and the Legislative Assemblies of the States
- 81.** After retirement, a High Court Judge
- (A) Can plead in the same High Court
(B) Cannot plead in the same High Court
(C) Can plead in the Supreme Court
(D) Can plead in any of the High Courts
- 82.** The Panchayati Raj was first introduced in the States of Rajasthan and
- (A) Andhra Pradesh
(B) Bihar
(C) Gujarat
(D) Haryana
- 83.** In a Parliamentary System of Government
- (A) The parliament is responsible to the executive
(B) The parliament is responsible to the judiciary
(C) The executive is responsible to the parliament
(D) The judiciary is responsible to the parliament
- 84.** The Deputy Chairman of Rajya Sabha can be removed by a resolution
- (A) Passed by a two-thirds majority of its total members at that time
(B) Passed by a simple majority of its total members at that time
(C) Moved by Rajya Sabha but passed by Lok Sabha
(D) None of the above

85. The Seventh Schedule of the Indian Constitution contains
- States and Union Territories
 - Salaries of the President, Governors of States, Judges of Supreme Court, etc.
 - Union List, State List and Concurrent List
 - Allocation of seats in the Rajya Sabha
86. Which of the following languages are included in the Eighth Schedule of the Indian Constitution ?
- Sindhi and English
 - English and Kashmiri
 - Kashmiri and Konkani
 - Sindhi and Kashmiri
87. The National Anthem was written by
- Rabindranath Tagore
 - Bankim Chandra Chatterji
 - Mohammed Iqbal
 - None of the above
88. What is the minimum percentage of the strength of opposition required in a State legislature for the appointment of an opposition leader ?
- 20
 - 25
 - 40
 - None of the above
89. Yuan is the currency of
- China
 - Japan
 - Indonesia
 - Burma
90. The most irritating factor in the Centre-State relationship is the
- River water dispute
 - Interference of the Centre in the functions allotted to them by the Constitution
 - Allocation of finances
 - None of the above
91. writ issued by a superior court command that a specified thing be done.
- legal term for a prisoners right to appear in person and be tried in court.
 - written public declaration of the intentions, opinions or motives of a sovereign or of a leader, party or body.
 - The principle of hybridisation, discovered by Gregor Mendel which led to the improved breeds of plant and animal life.
92. The year of Great Divide, in Indian demography, is
- 1905
 - 1921
 - 1947
 - 1965
93. Which of the following States has Urdu as its official language ?
- Bihar
 - Jammu & Kashmir
 - Madhya Pradesh
 - Rajasthan
94. Sarkaria Commission was set up to
- Investigate about the riots that took place in Delhi in 1984
 - Maintain Centre-State relationship
 - Make necessary investigations and suggestions regarding the problem of Punjab
 - Investigate about the assassination of Mrs. Indira Gandhi
95. The Directive Principles of State Policy have been given precedence over Fundamental Rights in the Constitutional Amendment
- 41st
 - 42nd

- (C) 43rd
(D) 45th
- 96.** The Prevention of Food Adulteration Act came into force in
(A) 1954
(B) 1955
(C) 1964
(D) 1976
- 97.** Which of the following States are not covered by the Panchayati Raj ?
(A) Tripura and Sikkim
(B) Manipur and Assam
(C) Meghalaya and Nagaland
(D) Assam and West Bengal
- 98.** Which of the following is correct about the Chief Election Commissioner ? He holds the office till he attains the age of
(A) 62 years
(B) 65 years
(C) 62 years or completes 3 years of service, whichever is earlier
(D) 65 years of age or completes 5 years of service, whichever is earlier
- 99.** Constitution does not recognise the caste system because
(A) India is secular
(B) It leads to inequality which is against the Constitution
(C) It leads to untouchability
(D) All of the above
- 100.** Direct taxation was introduced by the _____ committee
(A) Wanchoo
(B) Chetty
(C) Kaldor
(D) Raja Chelliah
- 101.** Which of the Following is a cognizable offence ?
(A) First offence committed by any person
(B) Offence committed by a minor
(C) Offence other than murder
(D) Offence which can be dealt with by the court
- 102.** If suitable Scheduled Caste/Tribe candidates are not available, the posts
(A) May for the time being be filled by other candidates
(B) Are left vacant
(C) Are filled by Other Backward Classes candidates
(D) None of the above
- 103.** Parliamentary bill passed by the Lok Sabha is sent to the President for assent. The President sends it back to Lok Sabha for reconsideration. If the Lok Sabha again sends it back to the President without making any changes, the President
(A) Must give his assent to it
(B) Can again send the bill for reconsideration
(C) Can take help of the Supreme Court
(D) Can arrange referendum
- 104.** The Institute of Ombudsman was first established in
(A) Norway
(B) Sweden
(C) Finland
(D) Denmark
- 105.** India is a federal state because of
(A) Dual Citizenship prevalent here
(B) Dual judiciary
(C) Share of power between the Centre and the States
(D) Written Constitution

- 106.** Governor of which State has been entrusted with the special powers for the administration of tribal areas ?
- (A) Bihar
(B) Madhya Pradesh
(C) Assam
(D) Arunachal Pradesh
- 107.** Representation of any State in Rajya Sabha, is according to
- (A) Population of the State
(B) Area of the State
(C) Fixed number of candidates for each State
(D) Number of representation in Lok Sabha from that State
- 108.** The Speaker of the lower house of a State can step down by submitting his resignation to the
- (A) Chief Minister
(B) Governor
(C) Deputy Speaker of the House
(D) President
- 109.** Judges of a High Court are appointed by the President with the consent of the
- (A) Governor
(B) Governor, the Chief justice of India and the Chief Justice of the High Court concerned
(C) Governor and the preceding Chief
(D) Justice of the High court
- 110.** India has Parliamentary democracy system because
- (A) Members of the Lok Sabha are elected by the public
(B) Council of Ministers is responsible to the Legislature
(C) Of distribution of power between the Centre and the States
(D) Of a single constitutional framework
- 111.** Parliament can legislate matters in the State List
- (A) By wish of the President
(B) If Rajya Sabha passes a resolution by 2/3rd majority
(C) Under any circumstances
(D) By asking the legislature of the State concerned
- 112.** The maximum gap between two sessions of the Parliament can be of
- (A) Six months
(B) Three months
(C) Nine months
(D) Twelve months
- 113.** First non-Congress government to come in power in any Indian State is
- (A) DMK in Tamil Nadu
(B) Communist Party of India in Kerala
(C) CPI (M) in West Bengal
(D) None of the above
- 114.** Death penalty for drug smuggling is given in
- (A) Thailand
(B) Singapore
(C) Malaysia
(D) Bangladesh
- 115.** Economic Justice, as one of the objectives of the Indian Constitution, has been provided in the
- (A) Preamble and Fundamental Rights
(B) Preamble and Directive Principles
(C) Fundamental Rights and Directive Principles
(D) Preamble, Fundamental Rights and Directive Principles
- 116.** Seasonal migration of men and animals from lower to higher altitudes during the summer is known as
- (A) Nomadism

- (B) Migration
(C) Transhumance
(D) Pastoralism
- 117.** The Constitution of India provides for the nomination of two members to the Lok Sabha by the President to represent
(A) Men of eminence in arts, letters, science, etc.
(B) Parsis
(C) The business community
(D) The Anglo-Indian community
- 118.** A political party is recognised as a national party
(A) When it contests elections in all the States of the country.
(B) When it secures at least five per cent of the total votes cast in a national election.
(C) If it captures power at least in three States.
(D) If it is recognised as a political party in four or more States
- 119.** Which one of the following countries has tricameral legislature with one House for ethnic group ?
(A) South Africa
(B) Sri Lanka
(C) Fiji
(D) Malaysia
- 120.** Who among the following have a right to vote in the Vice Presidential election but not in the Presidential election?
(A) Ministers who are not members of either House of the Parliament
(B) Elected members of the Upper Houses of the States
(C) Nominated members of the Parliament
(D) Members of the Parliament who abstain from all meetings of the House for a period of sixty days without permission of the House
- 121.** Who among the following has the right to speak and otherwise take part in the proceedings of either House of the Parliament and to be a member of any Parliamentary Committee in India but is not entitled to vote ?
(A) The Chief Election Commissioner
(B) The Comptroller and Auditor-General
(C) The Chairman of the Finance Commission
(D) The Attorney-General
- 122.** Assertion (A): The Indian Constitution closely follows the British parliamentary model. Reason (R): In India the Upper House of the Parliament has judicial powers.
(A) Both A and R are true and R is the correct explanation of A
(B) Both A and R are true but R is NOT a correct explanation of A
(C) A is true but R is false
(D) A is false but R is true
- 123.** Diet is the name of the Parliament in
(A) U.K.
(B) U.S.
(C) India
(D) Japan
- 124.** In a political party of 36 members, the minimum number of members needed to split for disqualifying the original political party as per Anti-Defection Law should be
(A) 12
(B) 18
(C) 24
- 125.** In the estimation of expenditure charged on the Consolidated Fund of India, the Parliament has
(A) No power to discuss.
(B) Full power to discuss.

- (C) Full power to discuss during financial emergency.
(D) None of the above
- 126.** If the Speaker of the State Legislative Assembly decides to resign, he should submit his resignation to the
(A) Chief Minister
(B) Governor
(C) Judge of the High Court
(D) President
- 127.** Which of the following is the most industrialised country ?
(A) Bangladesh
(B) Malaysia
(C) Nepal
(D) Singapore
- 128.** The first Leader of the opposition to get recognition in the Indian Parliament was
(A) Y. . Chavan
(B) Ram Subhag Singh
(C) . K. Gopalan
(D) . M. Stephen
- 129.** Cognizable offence refers to an offence where
(A) Arrests can be made without warrant.
(B) Arrests can be made with warrant.
(C) It is under the jurisdiction of a court.
(D) Police can register a case without formal complaint.
- 130.** No money bill can be introduced in the legislative assembly without the recommendations of the
(A) Speaker
(B) Governor
(C) Chief Minister
(D) Finance Minister
- 131.** The Interest Rate Policy is a component of
(A) Fiscal Policy
(B) Monetary Policy
(C) Trade Policy
(D) Direct Control
- 132.** The 42nd Amendment to the Indian Constitution is notable because it gives
(A) Primacy to Fundamental Rights over Directive Principles
(B) Primacy to Directive Principles over Fundamental Rights
(C) Special treatment to Jammu & Kashmir
(D) Special treatment to Sikkim
- 133.** Which among the following is not a part of electoral reforms ?
(A) Registration of political parties
(B) Disqualifying the offenders
(C) Installation of electronic voting machines
(D) Appointment of the Election Commissioner
- 134.** All India Services can be created by the
(A) President
(B) U.P.S. .
(C) Prime Minister
(D) Parliament
- 135.** Which of the following committees was appointed for investigating into the Delhi riots in November 1984 ?
(A) Sarkaria Commission
(B) Ranganath Mishra Commission
(C) Thakkar-Natarajan Commission
(D) Santhanam Commission
- 136.** Assertion (A): Finance Commission aims to safeguard the fiscal autonomy of the States. Reason (R): Finance Commission is constituted every fifth year.

- (A) Both and R are true and R is the correct explanation of
- (B) Both and R are true but R is not the correct explanation of
- (C) is true but R is false
- (D) is false but R is true
- 137.** Consider the following statements regarding booth capturing in an election: 1. It has been defined in the Constitution of India after the 61st Amendment. 2. It includes the seizure of and taking possession of a polling booth to prevent the orderly conduct of elections. 3. It is also committed when any elector is threatened and prevented from going to the polling station to cast his vote. 4. It has been declared a cognisable offence punishable by imprisonment. Of these statements
- (A) 2, 3 and 4 are correct
- (B) 1, 2 and 3 are correct
- (C) 2 and 3 are correct
- (D) 1, 2, 3 and 4 are correct
- 138.** Consider the following pairs : Constitutional Subject Amendment 1. 52nd Anti-Defection Law 2. 56th Statehood for Goa 3. 59th Emergency in Punjab 4. 62nd Reservation for Scheduled Castes and Tribes in services
- (A) 1, 2 and 3 are correctly matched.
- (B) 3 and 4 are correctly matched
- (C) 1, 2, 3 and 4 are correctly matched.
- (D) 2, 3 and 4 are correctly matched.
- 139.** Assertion (A) : Panchayati Raj institutions were set up to decentralise planning to village level. Reason (R) : Village panchayats are in a better position to have a proper appreciation of their developmental needs.
- (A) Both A and R are true and R is the correct explanation of
- (B) Both A and R are true but R is not a correct explanation of
- (C) A is true but R is false
- (D) A is false but R is true
- 140.** Consider the following statements regarding a No-confidence Motion in the Parliament. 1. There is no mention of a No-confidence Motion in the Constitution of India. 2. A period of six months must elapse between the introduction of one No-confidence Motion and the other. 3. At least 100 members must support a Motion of No-confidence before it is introduced in the House. 4. A motion of No-confidence can be introduced in the Lok Sabha only. Of these statements
- (A) 2 and 4 are correct
- (B) 1, 2, 3 and 4 are correct
- (C) 1, 2 and 3 are correct
- (D) 1 and 4 are correct.
- 141.** Parliament or a State Legislature can declare a seat vacant if a member abstains himself without permission from the sessions for at least
- (A) 30 days
- (B) 60 days
- (C) 90 days
- (D) 120 days
- 142.** Consider the following activities indulged in by a candidate during an election campaign: 1. Giving gifts to voters to induce them to vote 2. Appealing for votes on the grounds of caste or religion 3. False character assassination of other candidates 4. Propagation and glorification of sati Which of these constitute the corrupt practices ?
- (A) 1 and 2
- (B) 2 and 3
- (C) 1, 2 and 3
- (D) 1, 2, 3 and 4
- 143.** The value of a vote of a member of the Parliament for the election of the President of India is determined by dividing the
- (A) Nation's population as per the latest census by the number of Lok Sabha members.

- (B) Population as per the latest census by the total strength of the two Houses of the Parliament.
- (C) The total value of votes of the members of all the State Legislative Assemblies by the elected members of the two Houses of the Parliament
- (D) Particular States population as per the latest census by the number of members of Parliament elected from that State
- 144.** Assertion (A) : Equality before the law is not applicable to the President of India. Reason (R): The President of India enjoys special powers and privileges under the Constitution.
- (A) Both A and R are true and R is the correct explanation of A.
- (B) Both A and R are true but R is not a correct explanation of A.
- (C) A is true but R is false.
- (D) A is false but R is true.
- 145.** Holding of elections for the Panchayats is decided by
- (A) The District Magistrate
- (B) Constitutional mandate
- (C) The State Government
- (D) The Election Commission
- 146.** The right to Freedom of Speech in India may be restricted, if the freedom is used to
- (A) Incite people to violence
- (B) Propagate nationalisation of the private sector
- (C) Level charges of corruption against those in power
- (D) Spread superstition
- 147.** India is opposed to the Nuclear Non-proliferation Treaty (NPT) because
- (A) It is discriminatory against the non-nuclear powers
- (B) It forbids India to use nuclear energy for peaceful purposes
- (C) It aims at making South Asia a nuclear free zone
- (D) It allows Pakistan to develop its own nuclear capability
- 148.** Of the following, with which does Article 78 of the Constitution deal with ? (1) Emergency powers of the President (2) The Prime Minister's duty regarding keeping the President informed about the government's decisions, policies and actions (3) The President's power to send advisory messages to the Parliament (4) The President's power to get information from the Council of Ministers
- (A) 1 and 4
- (B) 2 and 3
- (C) 2 and 4
- (D) 2 only
- 149.** Which one of the following statements is true ?
- (A) Union Territories are not represented in the Rajya Sabha
- (B) Jurisdiction regarding election disputes rests with the Chief Election Commissioner
- (C) Jnaneshwar Bengali The Speaker continues in his post even after the state council is dissolved till a new speaker is elected by the succeeding state council
- (D) According to the Indian Constitution Parliament consists of Lok Sabha and Rajya Sabha only
- 150.** In India political parties are given recognition by
- (A) President
- (B) Law Commission
- (C) Speaker of Lok Sabha
- (D) Election Commission

- 151.** The appointment of the Judges of Supreme Court is done by
- (A) The Prime Minister on the advice of the Union Cabinet
- (B) The President in consultation with the Chief Justice of India
- (C) The Prime Minister in consultation with the Chief Justice
- (D) The President in consultation with the Law Commission of India
- 152.** Which one of the following can be prorogued but cannot be dissolved ?
- (A) Rajya Sabha
- (B) State Council
- (C) Municipal Corporation
- (D) Governing Council in a Union Territory
- 153.** To elect the President of India which one of the following election procedures is used?
- (A) System of proportional representation by means of a single transferable vote
- (B) Proportional representation through list system
- (C) Collective voting system
- (D) Secondary voting system
- 154.** The Panchayati Raj was first introduced in the States of Rajasthan and
- (A) Andhra Pradesh
- (B) Bihar
- (C) Gujarat
- (D) Orissa
- 155.** Holding of election for the Panchayats is decided by
- (A) The District Magistrate
- (B) Constitutional mandate
- (C) The State government
- (D) The Election Commission
- 156.** Which one of the following statements regarding the election of the President of India is correct?
- (A) candidate securing the majority of votes is not automatically elected
- (B) The Supreme Court has no jurisdiction in any doubt or dispute arising in connection with the election of the President
- (C) The Presidential election cannot take place when one or more State Assemblies stand dissolved because all the State Assemblies form part of the electoral college
- (D) The total value of the votes allotted to both Houses of Parliament is much more than the total value of the votes of all the States taken together
- 157.** Which of the following are Financial Committees of Parliament in India? 1. Public Accounts Committee 2. Estimates Committee 3. Committee on Public Undertakings
- (A) 1 and 3
- (B) 1 and 3
- (C) 2 and 3
- (D) 1, 2 and 3
- 158.** Which of the following statements regarding literacy in India are correct? 1. person who can only read but cannot write is not defined literate 2. Children below 5 years of age are not taken into consideration even if they are able to read and write 3. For the purpose of census, a person is deemed literate if he or she can read and write with understanding in any of the 15 languages mentioned in the Eighth Schedule of the Constitution 4. The fact that a district has attained hundred per cent literacy does not mean that the entire population in the district is literate
- (A) 1, 3 and 4
- (B) 2, 3 and 4
- (C) 1, 2 and 3
- (D) 1, 2 and 4

- 159.** Which one of the following is not in the State List under the Constitution of India?
- (A) Fisheries
(B) Agriculture
(C) Insurance
(D) Betting and Gambling
- 160.** If there is any disagreement between the Senate and the House of Representatives in USA, it is resolved by
- (A) The President
(B) The Vice-President
(C) The Speaker
(D) Conference committee consisting of 3 to 9 members from each House
- 161.** Which one of the following is used by the International Court of Justice in disputes concerning riparian rights?
- (A) Geneva Agreement
(B) Helsinki Agreement
(C) Paris Agreement
(D) Reykjavik Agreement
- 162.** Assertion (A): Minimum wages in India are fixed in accordance with the levels of living and the labour participation ratios. Reason (R) : All workers covered by the Minimum Wages Acts are above the poverty line. Of these statements
- (A) Both A and R are true and R is the correct explanation of A
(B) Both A and R are true but R is not the correct explanation of A
(C) A is correct while R is wrong
(D) A is wrong while R is correct
- 163.** Which one of the following correctly reflects the position of the Upper House of the State legislature as compared to the position of the Upper House of the Parliament?
- (A) While one-third of the members of the Rajya Sabha retire every second year, one-fourth of the members of the Legislative Council retire every eighteen months
(B) There is no provision for a joint sitting of the Legislative Assembly and the Legislative Council in the States for resolving deadlocks while there is such a provision in the case of the two Houses of Parliament
(C) While no Bill other than a Money Bill can originate in the State Legislative Council, no Bill can originate in the Rajya Sabha
(D) While Rajya Sabha has twelve nominated members, the State Legislative Council has none
- 164.** The Constitution of India borrowed the scheme of Indian Federation from the Constitution of
- (A) USA
(B) Canada
(C) Ireland
(D) UK
- 165.** Which of the following statements regarding judiciary in India are correct? 1. Supreme Court of India is free from the control and influence of legislature and executive 2. Subordinate courts are at the head of the judicial hierarchy of the state. 3. The Chief Justice and other judges of the High Court are appointed by the Governor in consultation with the Chief Justice of India 4. High Court can withdraw a case from a subordinate court and can deal with the case itself if it is satisfied that the case involves a substantial point of constitutional law Choose the correct answer from the codes given below:
- (A) 1 & 2
(B) 1 & 3
(C) 1 & 4
(D) 2, 3 & 4

- 166.** Which of the following are the circumstances under which an elected member of Parliament may be disqualified on the ground of defection? 1. If he voluntarily gives up his membership of a political party 2. If he votes or abstains from voting contrary to any direction issued by his political party without prior permission of the political party 3. If he speaks against the political party 4. If he joins a political party other than the party on whose ticket he contested and got elected Select the correct answer from the codes given below:
- (A) 1, 2 and 3
(B) 1, 2 and 4
(C) 1, 3 and 4
(D) 2, 3 and 4
- 167.** The abolition of the I. .S. and the I.P.S. has been recommended by the
- (A) Dhebar Commission
(B) Kalekar Commission
(C) Kher Commission
(D) Rajamannar Commission
- 168.** The only instance when the President of India exercised his power of veto related to
- (A) the Hindu Code Bill
(B) the PEPSU Appropriation Bill
(C) the Indian Post Office (Amendments) Bill
(D) the Dowry Prohibition Bill
- 169.** The Chief Minister of a State In India is NOT eligible to vote in the Presidential election if
- (A) he himself is a candidate
(B) he is yet to prove his majority on the floor of the Lower House of the State legislature
(C) he is a member of the Upper House of the State legislature
(D) he is a caretaker Chief Minister
- 170.** The Swaran Singh Committee considered the Q of
- (A) more autonomy to Punjab on the model of Jammu & Kashmir.
(B) the suitability of the Presidential form of government for India.
(C) the precedence of the Directive Principles over Fundamental Rights.
(D) administrative reforms
- 171.** The Employment Guarantee Scheme, a rural work programme, was first started in
- (A) West Bengal
(B) Punjab
(C) Kerala
(D) Maharashtra
- 172.** Which one of the following is a feature common to both the Indian Federation and the American Federation?
- (A) single citizenship
(B) Three lists in the Constitution
(C) Dual judiciary
(D) federal Supreme Court to interpret the constitution
- 173.** Which one of the following is in the Concurrent List in the Constitution of India?
- (A) Population control and family planning
(B) Public health and sanitation
(C) Capitation taxes
(D) Treasure trove
- 174.** Which one of the following comes under the jurisdiction of both the High Courts and the Supreme Court?
- (A) Disputes between the Centre and the States
(B) Disputes between the States interse
(C) Protection of the Fundamental Rights
(D) Protection against the violation of the Constitution

- 175.** Most-Favoured-Nations (MFN) clause under GATT implies
- most favour to some countries
 - most favour to all countries
 - no favour to any country
 - no favour to some countries
- 176.** Which one of the following statements regarding the office of the Speaker is correct ?
- He holds office during the pleasure of the President
 - He need not be a member of the House at the time of his election but has to become a member of the House within six months from the date of his election
 - He loses his office if the House is dissolved before the end of its normal tenure
 - If he intends to resign, the letter of his resignation is to be addressed to the Deputy Speaker
- 177.** The Anti-Defection Law was enacted as early as 1979 in
- Kerala
 - Jammu and Kashmir
 - West Bengal
 - Tamil Nadu
- 178.** Which one of the following is INCORRECT in respect of Parliamentary Control over the Budget?
- Parliament has no say in the preparation of the budget
 - Parliament has the power to increase expenditure charged on the Consolidated Fund
 - Parliament has no power to impose a tax without the President's recommendation
 - Parliament has no power to increase a tax without the President's recommendation
- 179.** Eurodollars are
- a currency issued by European Monetary Union
 - special currency issued by federal government of U.S. to be used only in Europe
 - U.S. dollars circulating in Europe
 - European currencies exchanged for the U.S. dollar in U.S.
- 180.** Next to Hindi, the language spoken by the largest number of people in the Indian sub-continent is
- Urdu
 - Telugu
 - Bengali
 - Tamil
- 181.** Which of the following statements regarding the Constituent Assembly are true? I. It was not based on adult franchise. II. It resulted from direct elections. III. It was a multi-party body. IV. It worked through several committees. Select the correct answer from the codes given below. Codes:
- I and II
 - II and III
 - I and IV
 - I, II, III and IV
- 182.** Who among the following are appointed by the President of India ? I. The Chairman, Finance Commission . II. The Deputy Chairman, Planning Commission III. The Chief Minister of a Union Territory. Choose the correct answer from the codes given below. Codes:
- I only
 - I and II only
 - I and III only
 - II and III only

- 183.** According to the newly adopted Constitution of Russia, the Prime Minister is appointed by
- the State Duma, the Lower Chamber of the Federal Assembly
 - the President, with the consent of the State Duma
 - the President, with the consent of the Federal Council
 - the Federal Council
- 184.** The basic structure theory of the Constitution of India implies that
- certain features of the Constitution are so essential to it that they cannot be abrogated
 - fundamental rights cannot be abridged or taken away
 - the Constitution cannot be amended except in accordance with the procedure prescribed in Art, 368
 - the Preamble of the Constitution cannot be amended for it is not a part of the Constitution and at the same time represents its real spirit
- 185.** The Uniting for Peace Resolution adopted by the U.N. has
- enhanced the powers of the General Assembly in a comprehensive way
 - reduced the powers of the General Assembly
 - made no difference to the powers of the General Assembly
 - empowered the General Assembly to act in specific situations in matters of peace and security
- 186.** Which of the following statements regarding the advisory jurisdiction of the Supreme Court are correct ? I. It is binding on the Supreme Court to give its opinion on any matter referred to it by the President. II. The full bench of the Supreme Court hears any reference made to it under its power of advisory jurisdiction. III. The opinion given by the Supreme Court on a reference under advisory jurisdiction is not binding on the government. IV. Not more than one reference at a time can be made to the Supreme Court under its power of advisory jurisdiction. Select the answer from the codes given below: Codes :
- I and II
 - I and III
 - II and III
 - II and IV
- 187.** Which one of the following statements regarding the veto power in the Security Council is correct according to the United Nations Charter ?
- The decisions of the Security Council on all nonprocedural matters must be made by an affirmative vote of nine members, including the concurring, votes of the permanent members of the Council
 - Every permanent member of the Security Council can prevent any decision from being accepted, by vetoing it
 - The term veto was used in Article 27 of the United Nations Charter to enable any permanent member of the Security Council to prevent any resolution from being passed by the majority
 - Any member of the Security Council can prevent any resolution from being passed by voting against it
- 188.** Which one of the following statements is correct ?
- All the members of the Rajya Sabha are elected by State Legislative Assemblies
 - As the VicePresident is the exofficio Chairman of the Rajya Sabha, only a member of the Rajya Sabha can contest for the office of the VicePresident

- (C) point of difference between the Lok Sabha and the Rajya Sabha is that while a candidate to the Lok Sabha can contest from any State in India, a candidate to the Rajya Sabha should ordinarily be a resident of the State from where he is contesting
- (D) The Constitution of India explicitly prohibits the appointment of a nominated member of Rajya Sabha to the post of a minister
- 189.** In which respect have the Centre-State relations been specifically termed as municipal relations ?
- (A) Centres control of the State in the legislative sphere
- (B) Centres control of the State in financial matters
- (C) Centres control of the State in the administrative sector
- (D) Centres control of the State in the planning process
- 190.** Which one of the following statements regarding Exit Poll is correct ?
- (A) Exit Poll is a term used to denote a post-election survey of voters regarding the candidate in whose favour they had exercised their franchise
- (B) Exit Poll and Opinion Poll are one and the same
- (C) Exit Poll is a device through which results of voting can be most exactly predicted
- (D) Exit Poll is an administrative device made recently by the Chief Election Commissioner to prevent impersonation
- 191.** The latest regional economic block to be formed is
- (A) ASEAN
- (B) COMECON
- (C) APEC
- (D) NAFTA
- 192.** Assertion (A): In India, the political parties which formed the governments represented the majority of seats secured in the elections to the House of the People at the Centre and the Legislative Assemblies in the States but not the majority of votes. Reason (R): The elections based on the majority vote system decide the result on the basis of relative majority of votes secured. In the context of the above statements, which one of the following is correct?
- (A) Both A and R are true, and R is the correct explanation of A
- (B) Both A and R are true, but R is not a correct explanation of A
- (C) A is true, but R is false
- (D) A is false, but R is true
- 193.** Which of the following is/are among the functions of the Election Commission of India ? I. Conduct of election for the posts of the Speaker and the Deputy Speaker, Lok Sabha and the Deputy Chairman, Rajya Sabha. II. Conduct of election to the Corporations and Municipalities. III. Deciding on all doubts and disputes arising out of the elections. Select the correct answer from the codes given below. Codes :
- (A) I and II
- (B) I and III
- (C) II and III
- (D) None of these
- 194.** Which of the following electoral systems have been adopted for various elections in India ? I. System of direct elections on the basis of adult suffrage. II. System of proportional representation by means of the single transferable vote. III. List system of proportional representation. IV. Cumulative system of indirect elections. Select the correct answer from the codes given below. Codes:
- (A) I and II

(B) I and III

(C) I, II and III

(D) II, III and Lv

195. Which of the following taxes is/are levied by the Union and collected and appropriated by the States ?

(A) Stamp Duties

(B) Passenger and Goods Tax

(C) Estate Duty

(D) Taxes on Newspapers

196. Which one of the following determines that the Indian Constitution is Federal?

(A) written and rigid Constitution

(B) An independent Judiciary

(C) Vesting of residuary powers with the Centre

(D) Distribution of powers between the Centre and the States

7.1 More MCQ practice questions

1. Indian Republic is not the product of

(A) Political Revolution

(B) Discussion

(C) Made by a body of eminent representatives of the people

(D) All the above

2. For the first time, British Parliament enacted which laws for the British Government to govern in India

(A) Govt. of India Act 1857

(B) Govt. of India Act 1858

(C) Govt. of India Act 1891

(D) Govt. of India Act 1888

3. The British Secretary of the State governed India through which Institution

(A) Executive Council

(B) Parliament

(C) Governor assisted by an Executive Council

(D) Governor General appointed by an Executive Council

4. Under the British Rule in India, Governor General was responsible to

(A) Secretary of India

(B) Secretary of Britain

(C) Secretary of State

(D) None of the above

5. Morely-Minto reform is associated with which Act

(A) Indian Council Act 1856

(B) Indian Council Act 1909

(C) Indian Council Act 1908

(D) Indian Council Act 1912

6. During the British rule, which community got separate representation from which Act

(A) Christian Community & Indian Council Act 1909

(B) Buddhist Community & Indian Council Act 1907

(C) Muslim Community & Indian Council Act 1909

(D) All the above

7. During the British period, under which Act election was introduced in India

(A) Indian Council Act 1913

(B) Indian Council Act 1909

(C) Indian Council Act 1906

(D) Indian Council Act 1907

8. Montagu-Chelmsford report is associated with which Govt of India Act

(A) Govt. of India Act 1918

(B) Govt. of India Act 1920

(C) Govt. of India Act 1930

(D) Govt. of India Act 1919

9. When was the Indian National Congress established
- (A) 1888
(B) 1885
(C) 1889
(D) 1890
10. Under the British Rule when Dyarchy Governing System was introduced for the first time
- (A) Govt. of India Act 1919
(B) Govt. of India Act 1929
(C) Govt. of India Act 1925
(D) Govt. of India Act 1935
11. Under the Govt. of India Act 1935, which communities were provided separate representation in the Electorate system
- (A) Sikh, Europeans
(B) Indian Christians
(C) Anglo-Indians
(D) All the above
12. Under which Government of India Act, Federation and Provincial Autonomy were introduced in India
- (A) Govt. of India Act 1935
(B) Govt. of India Act 1930
(C) Govt. of India Act 1940
(D) Govt. of India Act 1936
13. Under the British rule, how many acts came into operation
- (A) Govt. of India Act 1858, Indian Council Act 1861
(B) Indian Council Act 1892, Indian Council Act 1809
(C) Govt. of India Act 1919, Govt. of India Act 1935, Indian Independence Act 1947
(D) All the above
14. Which Act provided India to become an Independent state
- (A) Indian Independence Act 1949
(B) Indian Independence Act 1946
(C) Indian Independence Act 1947
(D) None of the above
15. Under the Govt. of India Act 1935, the Indian Federation worked through which kind of list
- (A) Federal List
(B) Provincial List
(C) Concurrent List
(D) All the above
16. In the Govt. of India Act 1835, Federal List contained which kind of subjects
- (A) External Affairs
(B) Currency and Coinage
(C) Naval, Military and Force, Census
(D) All the above
17. In the Govt. of India Act 1935, provincial list included which kind of subjects
- (A) Police
(B) Provincial Public Service
(C) Education
(D) All the above
18. In the Govt. of India Act 1935, which subjects are included in the concurrent list
- (A) Criminal Law & Procedure, Civil Procedure
(B) Marriage
(C) Divorce, Arbitration
(D) All the above
19. Under the Govt. of India Act 1935, who had the power to proclaim emergency
- (A) Governor General
(B) General of India
(C) Governor of the State
(D) None of the above

- 20.** In the Govt. of India Act 1935, who was authorised to make a law on the Provincial subject
- (A) Governor
(B) Governor General
(C) Federal Legislature
(D) None of the above
- 21.** Which Constitution is in the written form for the first time by an elected body during the Modern period
- (A) India
(B) America
(C) Britain
(D) France
- 22.** Who was the de facto Prime Minister at the time of evolution of the Indian Constituent Assembly
- (A) Moti Lal Nehru
(B) Sardar Ballabh Bhai Patal
(C) Jawahar Lal Nehru
(D) H. N. Kunzru
- 23.** Who boycotted the Indian Constituent Assembly
- (A) Unionist Muslim
(B) Muslim League
(C) Unionist Scheduled Caste
(D) Krishak Poja
- 24.** In the Constituent Assembly, which parties were members
- (A) Congress, Muslim League, Unionist Muslim
(B) Unionist Scheduled Caste, Krishak Poja, Scheduled Castes Federation, Sikh (Non Congress)
(C) Communists, Independents
(D) All the above
- 25.** Which party said that Indian Constituent Assembly does not have a fully representative character
- (A) Congress
(B) Muslim League
(C) Unionist Muslim
(D) Unionist Scheduled Castes
- 26.** After independence, who decided to determine the Future Constitution of India
- (A) Jawahar Lal Nehru
(B) Sardar Ballabh Bhai Patel
(C) Constituent Assembly
(D) None of the above
- 27.** Whom the Indian Constituent Assembly represented
- (A) Fully representative of the Hindus
(B) Fully representative of the State in India
(C) Fully representative of the Provinces in India
(D) Fully representative of the States and Provinces in India
- 28.** Through which offer, the British Government authoritatively supported a Constituent Assembly for making the Indian Constitution
- (A) August offer
(B) Viceroy offer
(C) Sir Strafford Cripps offer
(D) None of the above
- 29.** Who supported the views of the Constituent Assembly for making the Indian Constitution
- (A) Sardar Patel
(B) Gandhiji
(C) Jinnah
(D) None of the above
- 30.** Gandhiji wrote which article in the Harijan of 19th November 1939 to support the formation of Constituent Assembly for making the Constitution of India
- (A) The need of Constitution

- (B) Formation of Constituent Assembly
(C) The only way
(D) The way
- 31.** Which Party supported formation of a Constituent Assembly
(A) Congress
(B) Muslim League
(C) Unionist Muslim
(D) Unionist Scheduled Castes
- 32.** When did Constituent Assembly adopt a national Flag
(A) 22nd Aug. 1947
(B) 22nd July 1947
(C) 22nd Jan. 1947
(D) 22nd Oct. 1947
- 33.** Did the Constituent Assembly exist at the time of Indian Independence
(A) No
(B) Only idea emerged
(C) Yes
(D) Uncertainty regarding formation of said Assembly
- 34.** Who was the last British Governor General who addressed the Constituent Assembly
(A) Lord Attlee
(B) Lord Mount Batten
(C) Lord Bentick
(D) None of the above
- 35.** When did the Constituent Assembly pass a resolution for translation of the Constitution of India into Hindi and other many languages of India
(A) 17th Sep. 1949
(B) 17th Oct. 1949
(C) 17th Nov. 1949
(D) 17th Dec. 1949
- 36.** What was the last session of the Constituent Assembly
(A) Eleventh session
(B) Twelfth session
(C) Sixteenth session
(D) Seventh session
- 37.** When was the last Twelfth session of the Constituent Assembly held
(A) 24th Jan. 1950
(B) 24th Feb. 1950
(C) 24th April 1950
(D) 24th Dec. 1950
- 38.** How many copies of the Constitution were printed after the Constituent Assembly framed the same
(A) Two
(B) One
(C) Three
(D) Four
- 39.** Which song was sang in the Constituent Assembly before its Adjournment sine die
(A) Jana Gana Man
(B) Vande Matram
(C) A & B
(D) None of the above
- 40.** For how many years, months and days, did the Constituent Assembly work on the Constitution of India
(A) 2 Years, 11 months and 19 Days
(B) 3 Years, 12 months and 16 Days
(C) 4 Years, 18 months and 6 Days
(D) None of the above
- 41.** How many number of sessions were held in the Constituent Assembly
(A) Twenty sessions
(B) Twelve sessions
(C) Twenty-five sessions
(D) Twenty-eight sessions

- 42.** How many Articles and Schedules were in the First Draft Constitution presented by the Drafting Committee to the Constituent Assembly
- (A) 318 Articles and 7 Schedules
 (B) 319 Articles and 10 Schedules
 (C) 315 Articles and 8 Schedules
 (D) 399 Articles and 5 Schedules
- 43.** In the final form of the Constitution adopted by the Constituent Assembly, how many Articles and Schedules were there
- (A) 397 Articles and 9 Schedules
 (B) 395 Articles and 4 Schedules
 (C) 396 Articles and 7 Schedules
 (D) 395 Articles and 8 Schedules
- 44.** In the Constituent Assembly how many total number of Amendments were proposed in the Draft Constitution
- (A) Approx. 7935
 (B) Approx. 7892
 (C) Approx. 7365
 (D) Approx. 2473
- 45.** What was the expenditure made by the Constituent Assembly while framing the Constitution of India
- (A) Rs. 63,96,729
 (B) Rs. 64,98,725
 (C) Rs. 69,92,769
 (D) Rs. 65,92,926
- 46.** How many visitors came to witness the proceedings of the Constituent Assembly
- (A) 52,500
 (B) 53,000
 (C) 54,000
 (D) 54,500
- 47.** Who presented the Objective Resolution in the Constituent Assembly
- (A) Jawaharlal Nehru
 (B) Motilal Nehru
 (C) Sardar Ballabhai Bhai Patel
 (D) None of the above
- 48.** When was the First Draft of the Constitution of India proposed
- (A) Oct. 1945
 (B) Oct. 1947
 (C) Oct. 1946
 (D) Oct. 1948
- 49.** Who prepared the first draft Constitution of India
- (A) Jawahar Lal Nehru
 (B) Gandhiji
 (C) Advisory Branch of the Constituent Assembly
 (D) Sardar Ballabh Bhai Patel
- 50.** Who was the Chairman of the Draft Committee of the Constituent Assembly
- (A) Dr. B. R. Ambedkar
 (B) K. M. Munshi
 (C) Jagjivan Ram
 (D) None of the above
- 51.** When was the draft Constitution of India prepared by the Drafting Committee submitted to the President of the Constituent Assembly
- (A) 28th Feb. 1948
 (B) 26th Feb. 1948
 (C) 21st Feb. 1948
 (D) 25th Feb. 1948
- 52.** When was the Second Reading of the Constitution completed in the Constituent Assembly
- (A) 18 Nov. 1949
 (B) 17 Nov. 1949
 (C) 15 Nov. 1949
 (D) 16 Nov. 1949

- 53.** How many readings were held on the Constitution in the Constituent Assembly
- (A) First Reading
(B) Third Reading
(C) Second Reading
(D) None of the above
- 54.** When was the Constitution of India adopted by the Constituent Assembly
- (A) 25th Nov. 1949
(B) 29th Nov. 1949
(C) 26th Nov. 1949
(D) 27th Nov. 1949
- 55.** How many Princely States existed at the time when the Constituent Assembly was making the Constitution
- (A) 600
(B) 800
(C) 900
(D) 950
- 56.** Who said, I feel, however, good a Constitution may be, it is sure to turn out bad because those who are called to work it, taken to be a bad lot. However bad a Constitution may be, it may turn out to be good if those who are called to work it, happens to be a good lot. The working of a Constitution does not depend wholly upon the nature of the Constitution
- (A) Dr. Ambedkar
(B) Dr. Rajendra Prasad
(C) Dr. Subhash Kashyap
(D) None of the above
- 57.** Who stated, As to the execution that the Draft Constitution has produced a good part of the provisions of the Government of India Act 1935, make no apologies. There is nothing to be ashamed of in Borrowing.
- (A) Dr. Rajendra Prasad
(B) Jawhar Lal Nehru
(C) Gandhiji
(D) Dr. Ambedkar
- 58.** Who said, If the people who are elected are capable and men of character and integrity, they would be able to make the best even of a defective Constitution. If they are lacking in these, the Constitution cannot help the country
- (A) Sardar Hukam Singh
(B) K. M. Munshi
(C) Dr. Rajendra Prasad
(D) Sardar Ballabh Bhai Patel
- 59.** When were the election to the Constituent Assembly held
- (A) July 1946
(B) Aug. 1946
(C) Sep. 1946
(D) Oct. 1946
- 60.** In the Constituent Assembly how many seats were got by the Congress
- (A) 204
(B) 205
(C) 203
(D) 208
- 61.** How many seats were obtained by the Muslim League in the Constituent Assembly
- (A) 74
(B) 75
(C) 73
(D) 76
- 62.** How many seats were acquired by the other parties in the Constituent Assembly
- (A) 14
(B) 15
(C) 17
(D) 18

- 63.** How many total members were elected in the Constituent Assembly
- (A) 296
(B) 293
(C) 291
(D) 292
- 64.** In the Parliament of India Upper House is known as
- (A) Lok Sabha
(B) Rajya Sabha
(C) Council of States
(D) None of the above
- 65.** In the Parliament, Lower House is called as
- (A) Legislative Assembly
(B) Legislative Council
(C) Rajya Sabha
(D) Lok Sabha (House of People)
- 66.** In the Constituent Assembly who was the Head of the Union Constitution Committee
- (A) Jawaharlal Nehru
(B) Sardar Patel
(C) Subhash Buse
(D) None of the above
- 67.** In the Constituent Assembly which words were associated with the Parliament
- (A) Parliament of the Legislature
(B) Parliament of the Union
(C) Parliament of the Federation
(D) All the above
- 68.** In the Constituent Assembly, it was said that Parliament of the Federation shall consist of the President and what else
- (A) National Legislature
(B) National Assembly
(C) House of People
(D) Council of State
- 69.** In the Constituent Assembly, which committee recommended that Indian Constitution adopt Parliamentary Form of Executive
- (A) Drafting Committee
(B) Constitutional Committee
(C) Union Constitution Committee
(D) All the above
- 70.** In the Constituent Assembly, how many seats were fixed for House of People
- (A) 500
(B) 400
(C) 300
(D) 250
- 71.** In the Constituent Assembly, what was the number of population fixed for one Representative
- (A) 7,500
(B) 7,50,000
(C) 50,000
(D) 78,500
- 72.** Who elected Dr. Rajendra Prasad as the First President of India
- (A) Constituent Assembly
(B) Legislative Assembly
(C) Council of State
(D) Lok Sabha
- 73.** In the Constituent Assembly who proposed the name of Dr. Rajendra Prasad as President of India
- (A) Jawaharlal Nehru
(B) Sardar Patel
(C) A & B
(D) None of the above
- 74.** Which is our National anthem
- (A) Jana Gana Mana
(B) Vande Matram
(C) A & B
(D) None of the above

- 75.** When did the Constituent Assembly adopt National Anthem
- (A) 25th Jan. 1950
(B) 26th Jan. 1950
(C) 24th Jan. 1950
(D) 29th Jan. 1950
- 76.** In the last session of the Constituent Assembly which song was sung
- (A) Jan Gana Mana
(B) Vande Matram
(C) A & B
(D) None of the above
- 77.** Which women presented National Flag in the Constituent Assembly
- (A) Smt. Sarojini Naidu
(B) Smt. Hansa Mehta
(C) Smt. Indira Gandhi
(D) None of the above
- 78.** In the Indian National Flag, what does Ashoka's wheel represent
- (A) Wheel of the Truth
(B) Wheel of the Moral
(C) Wheel of the Dharm
(D) Wheel of the Law
- 79.** In the National Flag, what does green colour represent
- (A) Animals
(B) Soil
(C) Human Nature
(D) Spiritual Philosophy
- 80.** In the National Flag, what does saffron colour represent
- (A) Spirit of Renunciation
(B) Spirit of colours
(C) Spirit of Human nature
(D) None of the above
- 81.** In the National Flag, whom does the wheel represent
- (A) Prithivi Raj Chauhan
(B) Raja Man Singh
(C) Ashoka
(D) None of the above
- 82.** In the National Flag, what shall be the Ratio of the width to the length
- (A) 2 : 3
(B) 2 : 4
(C) 2 : 5
(D) 2 : 6
- 83.** In the National Flag, how many colours are there
- (A) Four
(B) Three
(C) Two
(D) Five
- 84.** Which colours are included in the National Flag
- (A) Deep Saffron
(B) White
(C) Dark Green
(D) All the above
- 85.** In the National Flag, which colour is used in the wheel
- (A) Blue
(B) Navy Blue
(C) Red Green
(D) Green-White
- 86.** In the Constituent Assembly, when was the ad-hoc Committee appointed for the National Flag
- (A) 23rd June 1947
(B) 23rd July 1947
(C) 23rd Jan. 1947
(D) 23rd Feb. 1947

- 87.** What was the name of India's First Legislature
 (A) Parliament
 (B) Union Parliament
 (C) Constituent Assembly
 (D) National Assembly.
- 88.** During what period, Constituent Assembly of India worked
 (A) 1948-1950
 (B) 1949-1951
 (C) 1947-1949
 (D) 1951-1952
- 89.** Who was the first Speaker of free India's first Legislature (Constituent Assembly)
 (A) G. V. Mavalankar
 (B) K. M. Munshi
 (C) Frank Anthony
 (D) Smt. Sarojini Naidu
- 90.** After Indian Independence who represented Provisional Parliament
 (A) Lok Sabha
 (B) Parliament
 (C) Rajya Sabha
 (D) Constituent Assembly
- 91.** When did India become a fully Sovereign Democratic Republic
 (A) 26th Nov. 1949
 (B) 26th Nov. 1930
 (C) 26th Jan. 1949
 (D) 26th Nov. 1951
- 92.** After Indian Independence, what was not Provisional Parliament provided
 (A) Directly Elected Body
 (B) Indirectly Elected Body
 (C) Sovereign Body
 (D) None of the above
- 93.** In the Provisional Parliament of India, how many members were there
 (A) 296
 (B) 313
 (C) 318
 (D) 316
- 94.** In India who amended the Constitution through the first Amendment Bill 1951
 (A) Lok Sabha
 (B) Rajya Sabha
 (C) Provisional Parliament
 (D) Parliament
- 95.** Who was the first Prime Minister of India at the time of Provisional Parliament
 (A) Jawahar Lal Nehru
 (B) Lal Bahadur Shastri
 (C) Indira Gandhi
 (D) Rajiv Gandhi
- 96.** Who was be Deputy Prime Minister of India at the time of Provisional Parliament
 (A) Jawahar Lal Nehru
 (B) Sardar Ballabh Bahi Patel
 (C) Maulana Abdul Kalam Azad
 (D) Gulzarilal Nanda
- 97.** Which occupation was represented more in the Provisional Parliament
 (A) Agriculturists
 (B) Businessmen
 (C) Teachers/Academicians
 (D) Lawyers
- 98.** From which area, more members were represented in the Provisional Parliament
 (A) Rural area
 (B) Urban area
 (C) Municipalities
 (D) Panchayats

- 99.** When did the first Lok Sabha function
(A) 1952-1956
(B) 1953-1957
(C) 1952-1957
(D) None of the above
- 100.** Who was the Prime Minister of India in the first Lok Sabha
(A) Pandit Govind Ballabh Pant
(B) Jawahar Lal Nehru
(C) Abdul Kalam Azad
(D) C. D. Deshmukh
- 101.** Who was the Minister of Home Affairs in the first Lok Sabha
(A) Jaggivan Ram
(B) C. D. Deshmukh
(C) Pandit Govind Ballabh Pant
(D) Abdul Kalam Azad
- 102.** Who was the first Speaker of the First Lok Sabha
(A) G.V. Mavalankar
(B) C. D. Deshmukh
(C) Dr. S. Radhakrishnan
(D) Pandit Govind Ballabh Pant
- 103.** Who was the chairman of the Rajya Sabha at the time of first Lok Sabha
(A) N.C. Chatterjee
(B) Dr. S. Radhakrishnan
(C) A. K. Gopalan
(D) Mahavir Tyagi
- 104.** Who was the father of the Lok Sabha
(A) Hukam Singh
(B) N. Sanjiva Readdy
(C) G. S. Dhillon
(D) G. V. Mavalankar
- 105.** When did the origin and evolution of the office of Speaker start in India
(A) In Hindu period
(B) In British Period
(C) In Mughal period
(D) None of the above
- 106.** Till 1920, who presided over the Legislative Council of India
(A) Speaker
(B) Deputy Speaker
(C) Governor
(D) Governor General
- 107.** When was the title Speaker assumed in India
(A) 1947
(B) 1948
(C) 1949
(D) 1946
- 108.** Under which act, the Bicameral Central Legislature was established during the British period for the first time
(A) Govt. of India Act 1938
(B) The Indian Council Act 1861
(C) Govt. of India Act 1919
(D) Govt. of India Act 1935
- 109.** Who was the first President of Central Legislative Assembly before India was Independent
(A) Sir Frederick Whyte
(B) Sir C.H. Seetalbad
(C) Sardar Patel
(D) Sir Mohammad Yakub
- 110.** Who was the Speaker of the Constituent Assembly
(A) Sir Abdul Rahim
(B) G. V. Mavalankar
(C) M. A. Ayyangar
(D) Sir Ibrahim Rahim Toola
- 111.** Who was the last President of the Indian Central Legislative Assembly during the British time
(A) G. V. Mavalankar

- (B) Abdul Rahim
(C) Sir R. K. Shanmukham Chetty
(D) None of the above
- 112.** Who was the first Indian to be the President of Central Legislative Assembly
(A) M. A. Ayyanger
(B) B. R. Bhagat
(C) Dr. Balaram Jajbhay
(D) Vithalbai J. Patel
- 113.** After the death of Shri G. V. Mavlankar, who became the Speaker of the first Lok Sabha
(A) M. A. Ayyanger
(B) K.S. Hegde
(C) N. Sanjiva Reddy
(D) None of the above
- 114.** Who was the Speaker of the second Lok Sabha
(A) K. S. Hegde
(B) M. A. Ayyanger
(C) Salman Khurshid
(D) Rabi Roy
- 115.** Which Indian President was the Speaker of the Fourth Lok Sabha
(A) S. D. Sharma
(B) Dr. Rajendra Prasad
(C) N. Sanjiva Reddy
(D) Dr. S Radhakrishnan
- 116.** Who was the Speaker of the Sixth Lok Sabha
(A) N. Sanjiva Reddy
(B) K. S. Hegde
(C) A and B
(D) None of the above
- 117.** Which article of the Indian Constitution mentioned the posts of Speaker and Deputy Speaker of the House of People
(A) Article 95
(B) Article 93
(C) Article 91
(D) Article 96
- 118.** Who is the Head to transact the business of the Lok Sabha
(A) Prime Minister
(B) Members of Lok Sabha
(C) Speaker
(D) President
- 119.** In the absence of the Speaker who performs the duties of transacting the business in Lok Sabha
(A) Deputy Speaker
(B) Prime Minister
(C) Members of Parliament
(D) Parliamentary Affairs Minister
- 120.** Under which Article of the Constitution, the Council of State (Rajya Sabha) has a Chairman and Deputy Chairman
(A) Article 109
(B) Article 108
(C) Article 89
(D) Article 91
- 121.** What members of the Parliament cannot represent
(A) Members of Lok Sabha
(B) Members of Rajya Sabha
(C) Members of Legislative Assembly
(D) Members of both Houses of Parliament
- 122.** How can member of Parliament resign from his seat
(A) By speaking in the House
(B) By an announcement in the Press
(C) By writing under his signature addressed to the Chairman or the Speaker
(D) All the above

- 123.** Who fixes salaries and allowances for the Chairman and Deputy Chairman of the Rajya Sabha and the Speaker and Deputy Speaker of the Lok Sabha
- (A) Lok Sabha
(B) Rajya Sabha
(C) Members of the Parliament
(D) Parliament by Law
- 124.** In which Schedule of the Constitution salaries and allowances for the Chairman and Deputy Chairman of Rajya Sabha and Speaker and Deputy Speaker of the Lok Sabha are specified
- (A) First
(B) Second
(C) Third
(D) Fourth
- 125.** Under which Article Conduct of Business of Parliament is mentioned
- (A) Article 99
(B) Article 93
(C) Article 76
(D) Article 92
- 126.** Under which Schedule of the Constitution every member of Parliament takes oath or affirmation
- (A) First
(B) Third
(C) Fifth
(D) Sixth
- 127.** Under the British Rule, who was the First Deputy President of Central Legislative Assembly
- (A) Shri Sachchidananda Sinha
(B) Shri Abdul Matia Chaudhary
(C) Sir Muhammad Yakub
(D) Shri R. R. Shamnukhaim Chetty
- 128.** Before Indian Independence, how was the Post of Deputy Speaker in the Central Legislative Assembly called
- (A) Vice President
(B) Vice Chairman
(C) Deputy President
(D) None of the above
- 129.** Who was the last Deputy President of Central Legislative Assembly during the British Period
- (A) Sir Muhammad Yamin Khan
(B) Shri Abdul Matia Chaudhary
(C) Sir Muhammad Yakub
(D) Shri R. R. Shamnukham Chetty
- 130.** Who was the Deputy Speaker of the Constituent Assembly (Legislative)
- (A) Shivaraj Patil
(B) G. Laxman
(C) S.V. Krishnamurthy Rao
(D) M. A. Ayyangar
- 131.** Who was the Deputy Speaker of the First Lok Sabha
- (A) M. A. Ayyangar
(B) Sardar Hukam Singh
(C) M. Thambidurai
(D) None of the above
- 132.** Who was the Prime Minister at the time of Second Lok Sabha
- (A) Lal Bahadur Shastri
(B) Pt. Jawahar Lal Nehru
(C) Narsimha Rao
(D) I. K. Gujral
- 133.** Who was the First Lok Sabha Speaker unanimously elected
- (A) Hukam Singh
(B) Dr. G.S. Dhillon
(C) M.A. Ayyangar
(D) B.R. Bhagat

- 134.** In the First Lok Sabha Election, what was the expenditure incurred
- (A) Rs. 10.45 crore
(B) Rs. 5.90 crore
(C) Rs. 7.81 crore
(D) Rs. 13.43 crore
- 135.** Who said As President, I have no eyes but constitutional eyes. I cannot see you
- (A) Dr. Rajendra Prasad
(B) Dr. Radhakrishnan
(C) Abraham Lincoln
(D) Mahatma Gandhi
- 136.** When was the First Lok Sabha dissolved
- (A) 4th April 1957
(B) 3rd April 1957
(C) 6th April 1957
(D) 8th April 1957
- 137.** In the First Lok Sabha, what was the Representation of Women
- (A) 27
(B) 34
(C) 22
(D) 39
- 138.** In the First Lok Sabha, how many seats were
- (A) 500
(B) 499
(C) 544
(D) 521
- 139.** In which two Lok Sabhas Women Representation was equal
- (A) First and Sixth Lok Sabha
(B) First and Eighth Lok Sabha
(C) First and Fifth Lok Sabha
(D) First and Ninth Lok Sabha
- 140.** Which Prime Minister of India imposed President Rule for more number of times
- (A) Jawahar Lal Nehru
(B) Lal Bahadur Shastri
(C) N. D. Deva Gowda
(D) Indira Gandhi
- 141.** During the time of Jawahar Lal Nehru, how many Times Presidents Rule was re-produced
- (A) Seven
(B) Two
(C) Zero
(D) Four
- 142.** During Lal Bahadur Shastri time, how many times President Rule was imposed
- (A) Four
(B) Ten
(C) Two
(D) Fifteen
- 143.** During the time of Indira Gandhi, what was the number of President's Rule imposed
- (A) 16
(B) 48
(C) 4
(D) 6
- 144.** During the time of Morarji Desai and Charan Singh, what was the number of times President Rule imposed
- (A) 16
(B) 4
(C) 5
(D) 10
- 145.** In Rajeev Gandhi time, how many times President Rule was imposed
- (A) 15
(B) 20
(C) 5
(D) 6

- 146.** At the time of V. P. Singh, how many times President's Rule was imposed
(A) 2
(B) 6
(C) 7
(D) 8
- 147.** During the period of Chandra Shekhar, how many times President's Rule was imposed
(A) 9
(B) 4
(C) 3
(D) 11
- 148.** During the time of P. V. Narsimha Rao, what was the number of President's Rule
(A) 90
(B) 100
(C) 7
(D) 11
- 149.** At the time of H. D. Deva Gowda, what was the number of President's Rule
(A) 2
(B) 5
(C) 13
(D) 16
- 150.** Under which Article of the Constitution of India, Constitution of Parliament has been defined
(A) 80
(B) 79
(C) 82
(D) 81
- 151.** Who nominates 12 members in the Council of State
(A) Chairman of Rajya Sabha
(B) Deputy Chairman of Rajya Sabha
(C) President of India
(D) Prime Minister of India
- 152.** Members of Rajya Sabha are elected by which members
(A) Lok Sabha
(B) Legislative Assembly
(C) Council of State
(D) Legislative Council
- 153.** Representative of Union territories in the Council of State shall be chosen in such a manner as decided by
(A) As prescribed by law in the Assembly
(B) As prescribed by law by State
(C) As prescribed by law by the Union
(D) As prescribed by law in the Parliament
- 154.** How many members represented Union territories in Lok Sabha
(A) 20
(B) 21
(C) 22
(D) 23
- 155.** For a Election to Lok Sabha, each State shall be divided into
(A) Constituencies
(B) Territorial Constituencies
(C) Union Constituencies
(D) State Constituencies
- 156.** How many members are fixed for Lok Sabha
(A) 501
(B) 551
(C) 530
(D) 506
- 157.** In which Article of the Constitution of India, duration of House of Parliament has been mentioned
(A) 83
(B) 84
(C) 85
(D) 88

- 158.** Which House shall not be a subject for dissolution
(A) Lok Sabha
(B) House of People
(C) Council of State
(D) State Legislature
- 159.** After how many years, one-third of the members of the Rajya Sabha retire
(A) 6 years
(B) 3 years
(C) 5 years
(D) 2 years
- 160.** Under which Constitutional subject in operation, life of Lok Sabha can be extended by one year
(A) Proclamation of Emergency
(B) Proclamation of President Rule in the State
(C) Proclamation of Amendment to the Constitution
(D) None of the above
- 161.** What is the period of Lok Sabha
(A) Four years
(B) Six years
(C) Five years
(D) Three years
- 162.** Under which Article of the Constitution of India, qualification for membership of Parliament has been mentioned
(A) 88
(B) 84
(C) 89
(D) 91
- 163.** What power the President may exercise from time to time in respect of Parliament
(A) Prorogue either of the House of Parliament
(B) Dissolve House of the People
(C) A & B
(D) None of the above
- 164.** What activities does the President perform in respect of both the Houses of the Parliament
(A) Time to time to summon each of Parliament
(B) Prorogue either of the House of the Parliament
(C) Dissolve the Lok Sabha
(D) All the above
- 165.** Under whose advice, the President shall have the power of summoning, prorogation and dissolution
(A) Home Minister
(B) Prime Minister
(C) Council of Ministers
(D) Parliamentary Affairs Ministers
- 166.** Within which period the President has to summon session of the Parliament
(A) Six Months
(B) Five Months
(C) Four Months
(D) Three Months
- 167.** Under which Supreme Court Judgment, action of the President to summon, prorogue and dissolve either of the Houses of the Parliament shall be unconstitutional if acted without advice of Council of Ministers
(A) Indira Gandhi vs. Raj Narain A.I.R. 1975 S.C. 2299
(B) Rao vs. Indira Gandhi A.I.R. 1971 S.C. 1002
(C) Anandan vs. Chief Secretary, A.I.R. 1966 S.C 657
(D) None of the above
- 168.** In the event of dissolution of Lok Sabha, who need not resign or get dismissed immediately
(A) Prime Minister
(B) Home Minister
(C) Union Council of Ministers
(D) None of the above

- 169.** Under which Constitutional Article, President has the right to address and send message to the Parliament
- (A) 84
(B) 83
(C) 85
(D) 86
- 170.** Under which Constitutional Article, President has the right for Special Address to the Parliament
- (A) 87
(B) 88
(C) 89
(D) 90
- 171.** Which law officer shall have the right to speak in both the Houses of Parliament
- (A) Solicitor General
(B) Advocate General
(C) Attorney General
(D) Legal Advisor
- 172.** Which Article of the Constitution of India mentioned the posts of the Chairman and Deputy Chairman of Rajya Sabha
- (A) 90
(B) 89
(C) 93
(D) 94
- 173.** Whom the Rajya Sabha has the power for removal
- (A) Speaker
(B) Deputy Speaker
(C) Council of President
(D) Deputy Chairman
- 174.** During the absence of the Chairman, who runs the Rajya Sabha ?
- (A) Deputy Chairman
(B) Prime Minister
(C) Home Minister
(D) Parliamentary Affairs Minister
- 175.** Under which Article, House of the People can have the Speaker and Deputy Speaker
- (A) 95
(B) 93
(C) 98
(D) 96
- 176.** What is the period laid down by the Constitution before the proposal for removal of Speaker and Deputy Speaker of Lok Sabha can be taken up by a resolution in the Lok Sabha
- (A) 15 Days
(B) 18 Days
(C) 16 Days
(D) 14 Days
- 177.** In Lok Sabha, who can not preside in the House while a Resolution for Removal from his office is under consideration
- (A) Speaker
(B) Deputy Speaker
(C) A & B
(D) None of the above
- 178.** Under which Article Salaries and allowances of the Chairman and Deputy Chairman of Rajya Sabha and Speaker and Deputy Speaker of Lok Sabha are mentioned
- (A) 97
(B) 96
(C) 95
(D) 94
- 179.** Which Article mentions the conduct of business of the Houses of Parliament
- (A) 99
(B) 100
(C) A & B
(D) None of the above

- 180.** Who appoints each member of either of the Houses of the Parliament after notification is received from the Election Commission
- (A) President
(B) Speaker of Lok Sabha
(C) Chairman of Rajya Sabha
(D) Prime Minister
- 181.** Who shall not give vote in the first instance in either of the Houses of Parliament
- (A) Speaker
(B) Chairman
(C) A & B
(D) None of the above
- 182.** When Speaker and Chairman shall give their votes on the Parliament.
- (A) When Prime Minister asks them to give vote on the Bill
(B) When the House passes such a resolution
(C) In the case of a tie between Yes and No
(D) All the above
- 183.** What is the Quorum laid down to constitute a meeting of either of the Houses of Parliament
- (A) one-tenth of the total number of members of that House
(B) one-fourth of the total number of members of that House
(C) one-fifth of the total number of members of that House
(D) one-half of the total number of members of that House
- 184.** Which Article mentions disqualification of members in the Parliament
- (A) Article 101 to Article 104
(B) Article 101 to Articles 105
(C) Article 102 to Article 106
(D) Article 106 to Article 110
- 185.** Lok Sabha has the supremacy in which matter
- (A) Railway Budget
(B) Defence Budget
(C) Foreign affairs
(D) Financial Bill
- 186.** Normally, what kind of session does the Parliament hold
- (A) Budget session
(B) Monsoon session
(C) Winter session
(D) All the above
- 187.** Which session of the year, President addresses both the Houses of Parliament
- (A) First session (Budget)
(B) Second session (Monsoon)
(C) Third session (Winter)
(D) None of the above
- 188.** In which session of Parliament, Railway and General Budgets are presented
- (A) Monsoon session
(B) First session
(C) Winter session
(D) None of the above
- 189.** What is the meaning of the adjournment motion under Parliamentary procedure
- (A) Member draws attention regarding important subject-matter
(B) Member wants the House to discuss his subject-matter
(C) Member wants to raise complicated issue
(D) Member wants to draw the attention of the House to way recent matter of urgent public importance having serious consequences.

- 190.** Who has the power to accept adjournment in the House
(A) Prime Minister
(B) Home Minister
(C) Speaker in the Lok Sabha and Chairman in the Rajya Sabha
(D) All the above
- 191.** Which authority in the Parliament has the right to adjourn the House
(A) Speaker of Lok Sabha and Chairman of Rajya Sabha
(B) President
(C) Parliamentary Affairs Minister
(D) Prime Minister
- 192.** Who has the power to present adjournment motion in Lok Sabha and Rajya Sabha
(A) Minister
(B) Deputy Speaker
(C) Prime Minister
(D) Member of the said House
- 193.** In the Parliament, every Bill has to pass through which stages of Reading before it becomes act
(A) First Reading
(B) Second Reading
(C) Third Reading
(D) All the above
- 194.** When a Bill is passed by the Parliament and the President, what is the status of the name
(A) Law
(B) Bill approved
(C) Bill exercised for administration
(D) Government procedure
- 195.** Which two houses, can have a joint sitting
(A) Legislative Assembly and Parliament
(B) Lok Sabha and Rajya Sabha
(C) Council of State and Legislative Council
(D) None of the above
- 196.** When does the President assent the Bill
(A) Lok Sabha passes the Bill
(B) Rajya Sabha passes the Bill
(C) Lok Sabha and Rajya Sabha both passed the Bill
(D) None of the above
- 197.** In India, when does the financial year commence
(A) First April
(B) Second April
(C) First March
(D) Fifteenth March
- 198.** On the subject of budget, demands for grant are arranged in which way
(A) Prime Minister
(B) Finance Minister
(C) Ministry wise
(D) All the above
- 199.** In how many parts, the Budget is presented in Lok Sabha
(A) One
(B) Two
(C) Three
(D) Four
- 200.** How are the parts of the Budget known as
(A) General Budget
(B) Railway Budget
(C) A & B
(D) None of the above
- 201.** In the Parliament, what is the meaning of the Government Bill
(A) Bill presented by Ruling Party member
(B) Bill approved by the Government

- (C) Only the Prime Minister presents the Bill
- (D) A Bill introduced by any Minister in either of the Houses of the Parliament
- 202.** In the Second Reading, what kind of process is adopted to approve the Bill
- (A) A general discussion on the Bill
- (B) Clause by clause consideration of the Bill
- (C) A & B
- (D) None of the above
- 203.** Who has the authority to call a joint sitting of the two Houses of Parliament
- (A) Prime Minister
- (B) President
- (C) Member of Lok Sabha
- (D) Member of Rajya Sabha
- 204.** Who has the power to accord his assent or withhold his assent to a Bill passed by the parliament
- (A) President
- (B) Member of the House
- (C) Minister
- (D) None of the above
- 205.** Which Bill President can neither return nor withhold his assent
- (A) Defence Bill
- (B) Money Bill
- (C) Law Bill
- (D) Financial Account Committee Bill
- 206.** How many Standing Committees are there in Lok Sabha
- (A) 14
- (B) 15
- (C) 15
- (D) 18
- 207.** Standing Committees in Lok Sabha are
- (A) Business Advisory Committee & Committee of Privileges
- (B) Committee on Absence of Members from the sitting of the House & Committee on Estimates
- (C) Committee on Government assurances and Committee on papers laid on the Table
- (D) All the above
- 208.** Financial Committees in Lok Sabha are
- (A) Committee on Estimates
- (B) Public Accounts Committee
- (C) Public Undertaking Committee
- (D) All the above
- 209.** Ad hoc Committees in Parliament are
- (A) Committee on Draft Five Year Plan, etc.
- (B) Committee in the conduct of certain members during the President Address
- (C) Select or Joint Committee on Bills
- (D) All the above
- 210.** Who appoints Ad hoc Committee on Parliament
- (A) Speaker of Lok Sabha
- (B) Chairman of Rajya Sabha
- (C) A & B
- (D) None of the above
- 211.** By which procedure the Indian President and American President are elected as laid down by their country's constitution
- (A) Elected through Member of Legislature
- (B) Elected by the People
- (C) Elected by State Legislatures
- (D) Elected by an Electoral College

- 212.** In what way our Indian Parliament is not Sovereign or Supreme with respect to the Constitution
- (A) In the Preamble, Constitution of India defines people of India as Sovereign
 - (B) Written Constitution of India
 - (C) Separation of Power and Checks and Balances between the three constitutional organ
 - (D) All the above
- 213.** Who has said that basic features of the Indian Constitution do not amount to a change
- (A) Prime Minister
 - (B) Parliament
 - (C) Supreme Court of India
 - (D) Government
- 214.** What is the nature of India's political system
- (A) Presidential System
 - (B) Parliamentary System
 - (C) A & B
 - (D) None of the above
- 215.** Which Constitutional Article was very much affected in the Supreme Court Judgement of Kesavanand Bharti vs. State of Kerala
- (A) Article 352
 - (B) Article 368
 - (C) Article 351
 - (D) Article 342
- 216.** Which constitutional article empowers amendment in the Constitution of India
- (A) Article 368
 - (B) Article 356
 - (C) Article 357
 - (D) Article 359
- 217.** Which constitutional organ has the power to amend Constitution of India
- (A) Judiciary
 - (B) Executive
 - (C) Legislative
 - (D) Parliament
- 218.** On which subject, Parliament has the power to amend the Constitution and the same also need ratification by the State Legislature
- (A) Articles 54, 55, 73, 162 and 241 or Chapter IV of Part V, Chapter V of Part VI or Chapter I of Part XI
 - (B) Any of the Lists in the Seventh Schedules of the representation of State on Parliament
 - (C) The Provisions of Article 368
 - (D) All the above
- 219.** Under which Constitutional Amendment Act, Article 368 of the Constitution was amended for the first time
- (A) 25th Amendment Act
 - (B) 26th Amendment Act
 - (C) 24th Amendment Act
 - (D) 27th Amendment Act
- 220.** Which Supreme Court Judgement pronounced that Fundamental Rights cannot be abridged
- (A) Golak Nath vs. State of Punjab A.I.R. 1967 S.C. 1643
 - (B) Kesavanand Bharti vs. State of Kerala A.I.R. 1973 S.C. 1961
 - (C) Indira Gandhi vs. Rajnarain A.I.R. 1975 S.C. 2299
 - (D) None of the above
- 221.** Who curbed the Judicial Review power of Judiciary through Amendment of the Constitution
- (A) State Legislature
 - (B) Parliament
 - (C) Council of State
 - (D) Legislative Council

- 222.** Who restored the Judicial Review power of Judiciary under Indian Constitution
- (A) Supreme Court of India
(B) High Court
(C) Chief Metropolitan Magistrate
(D) District Court
- 223.** In which House, Janta Government failed to secure two-third majority for new clause under Article 368 for introducing referendum for effecting changes in certain logic features of the Constitution
- (A) Legislative Council
(B) State Legislature
(C) State Assembly
(D) Rajya Sabha
- 224.** Who said in his judgement that no part of our Constitution is unamendable
- (A) Allahabad High Court
(B) Calcutta High Court
(C) Madras High Court
(D) Supreme Court of India
- 225.** What was the important landmark judgement regarding amendment of the Constitution (Article 368)
- (A) Shankari Prasad vs. Union of India
(B) Golak Nath vs State of Punjab
(C) Kesavananda vs State of Kerala, Minerva Mill vs. Union of India
(D) All the above
- 226.** Which Supreme Court judgement described the basic structure of the Constitution of India for the first time
- (A) Sankari Prasad vs. Union of India
(B) Kesavananda vs. State of Kerala
(C) Indira Gandhi vs. Union of India
(D) Golak Nath vs. State of Punjab
- 227.** How many judges of the Supreme Court were in the Bench to describe the basic structure of the Constitution for the first time in the landmark Judgement Kesavananda vs. State of Kerala
- (A) Article 13
(B) Article 12
(C) Article 14
(D) Article 15
- 228.** Under which Chief Justice of India, the Constitution Bench described the basic structure of the Constitution for the first time
- (A) Mr. Justice J. M. Shelat
(B) Mr. Justice J. S. Verma
(C) Mr. Justice C. J. Sikri
(D) Mr. Justice K. V. Chandrachud
- 229.** In which Supreme Court Judgement, it has been pronounced that Parliament cannot enlarge its own powers by making itself new Constitution
- (A) Sasanka vs. Union of India
(B) Kesavananda vs. State of Kerala
(C) Minerva Mills vs. Union of India
(D) Sankari Prasad vs. Union of India
- 230.** What is the nature of the Indian Constitution
- (A) Rigid Constitution
(B) Flexible Constitution
(C) A & B
(D) None of the above
- 231.** Which Articles in the Indian Constitution represent emergency provisions
- (A) Article 348-354
(B) Article 352-360
(C) Article 359-361
(D) Article 368-380
- 232.** Under which article of the Indian Constitution proclamation of emergency has been defined
- (A) Article 352
(B) Article 353
(C) Article 354
(D) Article 358

- 233.** Which article in the Constitution of India defines effect of proclamation of Emergency
- (A) Article 356
(B) Article 353
(C) Article 354
(D) Article 257
- 234.** Which Constitutional Article defines that only the union has the power to protect states against external aggression and internal disturbance
- (A) Article 359
(B) Article 360
(C) Article 355
(D) Article 361
- 235.** Which Constitutional article defines the provisions in case of failure of constitutional machinery in States
- (A) Article 356
(B) Article 358
(C) Article 359
(D) Article 369
- 236.** Which Constitutional article defines exercise of Legislative power after proclamation is issued under article 356
- (A) Article 358
(B) Article 357
(C) Article 360
(D) Article 358
- 237.** Which article defines suspension of the provisions of Article 18 during emergency
- (A) Article 344
(B) Article 345
(C) Article 343
(D) Article 358
- 238.** Which constitutional article defines the provision in respect of financial emergency
- (A) Article 359
(B) Article 357
(C) Article 356
(D) Article 350
- 239.** Which constitutional article defines the provision in respect of financial emergency
- (A) Article 348
(B) Article 351
(C) Article 360
(D) Article 362
- 240.** Which constitutional article defines protection of President and Governors
- (A) Article 362
(B) Article 363
(C) Article 368
(D) Article 301
- 241.** Which constitutional article defines protection against publication of proceedings of Parliament and Legislature
- (A) Article 361D
(B) Article 361A
(C) Article 364
(D) Article 365
- 242.** Which constitutional article defines the Bar to interference by Courts in disputes arising out of certain treaties, agreements, etc.
- (A) Article 363
(B) Article 370
(C) Article 371
(D) Article 372
- 243.** Which constitutional article abolished the Privy Purses
- (A) Article 374
(B) Article 392
(C) Article 363A
(D) Article 364

- 244.** Which constitutional article defines the effect of failure to comply with or to give effect to direction given by the Union
- (A) Article 356
(B) Article 367
(C) Article 368
(D) Article 365
- 245.** Which constitutional article defines the various definitions of constitutional subject
- (A) Article 366
(B) Article 369
(C) Article 375
(D) Article 378
- 246.** Which Fundamental Rights Article is not in operation during the emergency
- (A) Article 22
(B) Article 19
(C) Article 23
(D) Article 24
- 247.** Which constitutional organ has wider powers when emergency is in operation
- (A) Executive
(B) Legislative
(C) Judiciary
(D) A & B
- 248.** Which organ does not have the right to question and justify as null and void the law which violates Fundamental Rights article?
- (A) Executive
(B) Judiciary
(C) Legislative
(D) None of the above
- 249.** Who has the power to declare that citizen has no right to move any court for the enforcement of the rights conferred by Part 3 of Fundamental Rights during the course of emergency
- (A) Executive
(B) President
(C) Governor
(D) Prime Minister
- 250.** Which Fundamental Rights article is enforceable during the period of emergency
- (A) 20
(B) 21
(C) A & B
(D) None of the above
- 251.** Through which constitutional amendment in article 359, it has been laid down that Fundamental Rights under articles 20 and 21 are enforceable during the operation of emergency
- (A) 44th Amendment Act
(B) 46th Amendment Act
(C) 45th Amendment Act
(D) 48th Amendment Act
- 252.** On whose satisfaction period of emergency shall be extended for operation in case security of India or any part of the Indian territory is threatened
- (A) Prime Minister
(B) Home Minister
(C) President of India
(D) Vice-President of India
- 253.** Article 20 of the Fundamental Rights represents which subject
- (A) Equality of opportunity in matters of public employment
(B) Protection in respect of Conviction of Offence
(C) Protection of life and personal liberty
(D) None of the above

- 254.** Article 21 of the Fundamental Rights deals with which subject
(A) Protection of certain rights regarding freedom of speech,
(B) Protection in respect of conviction of offence
(C) Protection against arrest and detention in certain cases
(D) Protection of life and personal liberty
- 255.** Who declares the financial emergency
(A) President
(B) Prime Minister
(C) Finance Minister
(D) None of the above
- 256.** After declaration of financial emergency by the President, what is the period of operation without approval by the Parliament
(A) Three Months
(B) Four Months
(C) Two Months
(D) One Month
- 257.** Within what period, the Parliament has to approve Financial emergency declared by the President
(A) Six Months
(B) Two Months
(C) Three Months
(D) Four Months
- 258.** In Financial Emergency, salaries and allowances of which groups get reduction
(A) Central Government Employees
(B) Judges of the Supreme Court and High Courts
(C) A & B
(D) None of the above
- 259.** Raj Pramukh represents whom under the Indian Constitution
(A) President
(B) Governor
(C) A & B
(D) None of the above
- 260.** Under the Indian Constitution, what is the concept behind the protection of President and Governors
(A) President & Governors are above the law
(B) President & Governors make any law for the Constitution
(C) President and Governors are answerable to Prime Minister
(D) President and Governors shall not be answerable to any court to the exercise and performance of the powers and duties of their office
- 261.** By which Constitutional amendment, the appellation Rajpramukh was omitted
(A) 7th Amendment Act 1956
(B) 4th Amendment Act 1955
(C) 6th Amendment Act 1956
(D) 10th Amendment Act 1961
- 262.** Which constitutional article provides personal immunity for President and Governors for official act
(A) Article 362
(B) Article 363
(C) Article 368
(D) Article 361
- 263.** Which constitutional article provides personal immunity to the head of the states for his official act from legal action, including proceedings for contempt of Court
(A) Article 361
(B) Article 362
(C) Article 368
(D) Article 369

- 264.** Under which constitutional articles, newspapers do not have the right to publish report of the proceedings of a secret session of either of the Houses of Parliament or Legislative Assembly & Legislative Council
- (A) 361
(B) 361A
(C) 361B
(D) 361C
- 265.** Spell out the condition under Article 361A by which any person or newspaper cannot be sued for legal proceeding if any report of proceedings of Parliament and State Legislature is published
- (A) The report must be a report of the 'proceedings' of a House of the Union or a State Legislature. Hence, it must be relevant to a motion or other business before the House, and must not have been expunged
(B) It must be a report as distinguished from one article or 'Comment'.
(C) Such report must be substantially true. Hence, an extract or a garbed or perverted report would not be protected. The reporting must not be actuated by malice
(D) All of the above
- 266.** Any Court including Supreme Court does not have constitutional right under Article 143 to exercise jurisdiction over any dispute arising out of any provision of which agreements that were in operation before commencement of the Constitution
- (A) Treaty, Agreement
(B) Covenant, Engagement
(C) Sanad
(D) All of the above
- 267.** What is the meaning of Indian State in the Constitution
- (A) Any territory recognised by President of India
(B) Any territory before commencement of Indian Constitution by the British ruler
(C) Any territory which government of the Dominion of India recognised
(D) B & C
- 268.** Before which Constitutional Amendment, Prince, Chief or other person were recognised by the President of India as the Ruler of the Indian State
- (A) 26th Amendment Act 1971
(B) 24th Amendment Act 1971
(C) 16th Amendment Act 1963
(D) 17th Amendment Act 1964
- 269.** Under which Constitutional Amendment Privy Purses were abolished
- (A) 36th Amendment Act 1975
(B) 26th Amendment Act 1971
(C) 16th Amendment Act 1963
(D) 17th Amendment Act 1964
- 270.** Under which Constitutional Article, Union Government has the power to give direction to the State Govt. regarding any of the provisions of the Constitution
- (A) Article 368
(B) Article 362
(C) Article 365
(D) Article 367
- 271.** If any State Government fails to comply with or to give effect to any direction given by the Union Government, who can come to conclusion that a situation has arisen in which the State cannot carry out governance in accordance with the provision in the Constitution
- (A) President
(B) Prime Minister
(C) Home Minister
(D) Supreme Court

- 272.** Under Article 365 what are the duties of the Union Government with respect to State Governments
- (A) Ensure that every State Minister should act in accordance with the advice of Chief Minister
- (B) Ensure that Governor acts under advice of the Chief Minister
- (C) Ensure that Governance in the State is in accordance with the Constitution
- (D) All of the above
- 273.** What is the meaning of Foreign State as given in our Indian Constitution
- (A) Federal State
- (B) Commonwealth State
- (C) Nation
- (D) Any State other than India
- 274.** Which Constitutional article defines the work of Administrative Tribunal
- (A) Article 323A
- (B) Article 233B
- (C) Article 223B
- (D) None of the above
- 275.** Under which part of the Constitution, Tribunals have been defined
- (A) Part Four
- (B) Part Seven
- (C) Part Fifteen
- (D) Part Ten
- 276.** What are the subjects for adjudication or trial by Administrative Tribunal
- (A) Private sector employee recruitment disputes
- (B) Decide on recruitment in Public sector
- (C) Dispute and complaints with respect to recruitment and condition of service of persons appointed in the public services in connection with the officers of the Union or of any State or of any local or other Authority within the territory of India
- (D) None of the above
- 277.** Administrative Tribunal is meant for whom
- (A) Union
- (B) Each State
- (C) Two or more States
- (D) All the above
- 278.** Which Constitutional Amendment introduced the subject Tribunal in the Indian Constitution
- (A) Forty-second Amendment Act
- (B) Sixty-ninth Amendment Act
- (C) Seventeenth Amendment Act
- (D) Seventy-one Amendment Act
- 279.** On which Administrative Tribunal have no right to adjudicate disputes
- (A) Members of the Defence Forces
- (B) Officers and Servants of the Supreme Court or of any High Court
- (C) Members of the Secretariat Staff of Parliament or of any legislature of any State or Union Territory
- (D) All of the above
- 280.** Administrative Tribunals entertain those employees who are under employment with whom?
- (A) Union or State Government
- (B) A Local or other authority within the territory of India
- (C) A Corporation owned or controlled by the Government
- (D) All of the above
- 281.** Jurisdiction of the Administrative Tribunal is not supplementary but is a complete substitute for whom
- (A) High Court
- (B) Civil Courts
- (C) A & B
- (D) None of the above

- 282.** Under which constitutional article, jurisdiction of the Supreme Court has been retained over the Administrative Tribunals
- (A) Article 356
 - (B) Article 136
 - (C) Article 132
 - (D) Article 134
- 283.** Jurisdiction of the High Courts under Article 226 over service matters has been taken over by which judicial institution
- (A) District Court
 - (B) Administrative Court
 - (C) Chief Metropolitan Magistrate
 - (D) High Court
- 284.** Which Constitutional Institution conducts elections of Parliament and State Legislatures and to the offices of President and Vice-President
- (A) State Election Commission
 - (B) Provisional Election Commission
 - (C) Election Commission
 - (D) None of the above
- 285.** After 44th Constitutional Amendment provisions relating with election in Part XV of the Constitution of India have been retained in how many Articles
- (A) 324-329A
 - (B) 324-329
 - (C) 324-327
 - (D) 224-228
- 286.** Which Constitutional Article relating with the subject of election was omitted through 44th Amendment Act 1975
- (A) 329A
 - (B) 329B
 - (C) 329C
 - (D) 329
- 287.** Through which Constitutional Amendment, Article 329A relating with the subject of Election was inserted
- (A) 25th Amendment Act 1971
 - (B) 27th Amendment Act 1971
 - (C) 28th Amendment Act 1972
 - (D) 39th Amendment Act 1975
- 288.** Through which Constitutional Article, the subject of Bar to interference by courts in electoral matters have been elaborated
- (A) Article 327
 - (B) Article 229
 - (C) Article 329
 - (D) None of the above
- 289.** Which Constitutional Article elaborated power of Parliament to make provision with respect to election to legislatures
- (A) Article 329
 - (B) Article 327
 - (C) Article 328
 - (D) Article 330
- 290.** Who appoints Chief Election Commissioner
- (A) President
 - (B) Prime Minister
 - (C) Parliament
 - (D) None of the above
- 291.** Who acts as the Chairman of the Election Commission after appointment as Election Commissioner
- (A) Prime Minister
 - (B) Home Minister
 - (C) Chief Appointment Officer
 - (D) Chief Election Commissioner
- 292.** Under whose advice, President of India appoints Regional Election Commissioner
- (A) Prime Minister
 - (B) Chief Justice of High Court
 - (C) Governor
 - (D) Chief Election Commissioner

- 293.** Who decides allotment of symbols to Political Parties
- (A) Political Party leader
 - (B) Political Party Governing Committees
 - (C) Election Committee of Political Party
 - (D) Election Commission
- 294.** Conduct of Election Rules, 1961 was made by the Central Govt. in consultation with which commission
- (A) Parliamentary Members Inquiry Commission
 - (B) Regional Election Commissioners
 - (C) Election Commission
 - (D) None of the above
- 295.** Who decides disputes relating with the allotment of symbols to Political Parties
- (A) Representation Act 1952
 - (B) Representation Act 1953
 - (C) Representation of the People Act 1951
 - (D) Election Commission
- 296.** Who made a law for conduction of services and tenure of the office of Election Commissioners and Regional Election Commissioner
- (A) Chief Election Commissioner
 - (B) President
 - (C) Parliament
 - (D) State Legislature
- 297.** Who decides de-recognition of the Political Party solely on the basis of its performance at the election, e.g., bycotting of the election
- (A) Supreme Court of India
 - (B) Election Commission
 - (C) High Court
 - (D) District Court
- 298.** Can de-recognition of the Political Party by the Election Commission on the basis of its performance at the last Election be subjected to scrutiny
- (A) Judicial Review
 - (B) Judicial Order
 - (C) Judicial Scrutiny
 - (D) None of the above
- 299.** On whose recommendation, Election Commissioner or Regional Election Commissioner shall be removed from the office
- (A) Chief Judicial Magistrate
 - (B) President
 - (C) Election Commission
 - (D) None of the above
- 300.** Who has ample powers under Article 324(1) to make appropriate orders as to the conduct of Elections, e.g., cancellation of poll and ordering to poll according to exigencies in particular areas, introduction of electronic voting machines, postponing of election, etc.
- (A) Regional Election Commissioner
 - (B) Election Committee of Government
 - (C) Electoral Officer
 - (D) Election Commission
- 301.** Under Article 324, Election Commission has vast functions which are as given in what area
- (A) Administrative power
 - (B) Marginally Judicative power
 - (C) Legislative power
 - (D) All of the above
- 302.** After which Constitutional Amendment, even though decision of the Election Commission is issued from New Delhi, the order of the commission can be challenged by the aggrieved party in another state in the High Court of that State under Article 226

- (A) 15th Amendment Act
 (B) 10th Amendment Act
 (C) 11th Amendment Act
 (D) 12th Amendment Act
- 303.** Through which procedure, a writ can be filed in the Supreme Court against decision of the Election Commission on recognising or de-recognising a political party for the purpose of an electoral symbol, or which group within a particular party, constitutes that party for been allotted of Election symbol to that party
 (A) Under Article 32
 (B) Under Article 229
 (C) Special leave petition
 (D) Public Interest Litigation
- 304.** Under which Constitutional Article, Special leave to appeal lies with the Supreme Court
 (A) Article 136
 (B) Article 137
 (C) Article 138
 (D) Article 139
- 305.** Under which Constitutional Article review of judgement or orders lies with the Supreme Court
 (A) Article 139
 (B) Article 137
 (C) Article 140
 (D) Article 141
- 306.** Under which Constitutional Article enlargement of the jurisdiction of the Supreme Court is mentioned
 (A) Article 145
 (B) Article 148
 (C) Article 138
 (D) Article 143
- 307.** Which Constitutional Article mentions conformation the Supreme Court of powers to issue certain writs
 (A) Article 145
 (B) Article 168
 (C) Article 169
 (D) Article 139
- 308.** Which Constitutional Article mentions transfer of certain cases for Supreme Court
 (A) Article 139A
 (B) Article 139B
 (C) Article 139C
 (D) Article 138
- 309.** Which Constitutional Article defines law declared by Supreme Court to be binding on all courts
 (A) Article 142
 (B) Article 141
 (C) Article 143
 (D) Article 144
- 310.** Under which Constitutional Article, President has the power to consult Supreme Court
 (A) Article 145
 (B) Article 146
 (C) Article 143
 (D) Article 144
- 311.** Under which Constitutional Article, Civil and Judicial authorities are to act in aid of the Supreme Court
 (A) Article 245
 (B) Article 248
 (C) Article 146
 (D) Article 144
- 312.** Under which Constitutional Article repeal of special provision as to disposal of questions relating to constitutional validity of law is mentioned

- (A) Article 144A
(B) Article 345
(C) Article 248
(D) Article 249
- 313.** Which Constitutional Article defines the subject Officers and servants and expenses of the Supreme Court.
(A) Article 296
(B) Article 147
(C) Article 247
(D) Article 245
- 314.** Which Constitutional Article defines Interpretation' of Constitutional right of Supreme Court
(A) Article 163
(B) Article 162
(C) Article 147
(D) Article 161
- 315.** Which Constitutional Article defines functions of Comptroller and Auditor General of India.
(A) Article 148-150
(B) Article 149-150
(C) Article 148-155
(D) Article 148-151
- 316.** Which Constitutional Article defines, Comptroller and Auditor General of India
(A) Article 148
(B) Article 149
(C) Article 150
(D) Article 151
- 317.** Through which Constitutional Article duties and powers of 'Comptroller and Auditor General' is detailed
(A) Article 153
(B) Article 149
(C) Article 199
(D) Article 168
- 318.** Which Constitutional Article defines 'Form of Accounts of the Union and the State.'
(A) Article 151
(B) Article 152
(C) Article 150
(D) Article 153
- 319.** Under which Constitutional Article, the Election Commission is a Tribunal
(A) Article 136
(B) Article 136(3)
(C) Article 136 (2)
(D) Article 136(1)
- 320.** Up to which year Chief Election Commissioner functioned as one-man Commission
(A) 1988
(B) 1989
(C) 1987
(D) 1986
- 321.** In which months and year, the President notified that besides the Chief Election Commissioner the Commission should have two other members called as Election Commissioner
(A) Nov. 1989
(B) Feb. 1989
(C) Oct. 1989
(D) Dec. 1989
- 322.** Through which Supreme Court Judgment, it has been pronounced that Chief Election Commissioner should have two other members called Election Commissioner with Coordinate power
(A) Durga Shankar vs. Raghuraj A.I.R. 1954 S.C. 520
(B) Mohinder vs. Election Commission A.I.R. 1978 S.C. 851
(C) Inderjeet vs. Election Commission A.I.R. 1984 S.C 1911
(D) Dhanoa vs. Union of India A.I.R. 1991 S. C. 1745

- 323.** Chief Election Commissioner cannot be removed except by which process
 (A) Resignation
 (B) Presidential Order
 (C) Impeachment
 (D) Judicial Decision
- 324.** Under which Chief Election Commissioner, Election Commission was made a body of multimember Election Commission
 (A) T. N. Seshan
 (B) H. K. Sen
 (C) S. P. Sen Verma
 (D) M. S. Gill
- 325.** Which Chief Election Commissioner appealed the Supreme Court that under Article 324, Election Commission as a multimember Election Commission is not valid
 (A) K. B. Sundram
 (B) T. Swaminathan
 (C) H. S. Shakhthar
 (D) T. N. Seshan
- 326.** During T. N. Seshan period as Chief Election Commissioner, who was the other Commissioner in the Election Commission
 (A) M. S. Gill
 (B) G. V. Krishnamurthy
 (C) A & B
 (D) None of the above
- 327.** For which Election, one General Electoral Roll for every territorial Constituency shall exist
 (A) Lok Sabha
 (B) Rajya Sabha
 (C) Legislature
 (D) All the above
- 328.** On what basis, Election to Lok Sabha and State Legislature shall be conducted
 (A) Adult Suffrage
 (B) Indirect Election
 (C) Direct Election
 (D) None of the above
- 329.** Under which Constitutional Amendment, provision for minimum age as 18 years for the Indian citizen was made to become eligible to vote
 (A) 60th Amendment Act 1988
 (B) 61st Amendment Act 1989
 (C) 62nd Amendment Act 1989
 (D) None of the above
- 330.** Before 61st Amendment Act 1989, what was the age of Indian citizen eligible to vote in the Election
 (A) 23
 (B) 24
 (C) 21
 (D) 22
- 331.** Under Article 326, what was the Constitutional requirement for the Indian citizen not to become eligible as a voter
 (A) Non Resident
 (B) Unsoundness of Mind
 (C) Crime or Corrupt or Illegal practice
 (D) All the above
- 332.** Which Constitutional Article lays down qualification for becoming a voter
 (A) Article 328
 (B) Article 339
 (C) Article 326
 (D) Article 295
- 333.** Which Constitutional Article lays down qualifications for the Indian citizens for election to Parliament
 (A) Article 81
 (B) Article 80
 (C) Article 83
 (D) Article 84

- 334.** Which Constitutional Article defines qualifications for the Indian citizen for election to a State Legislature
- (A) Article 173
 - (B) Article 175
 - (C) Article 177
 - (D) Article 178
- 335.** Under the Indian Constitution, what does 'Adult Suffrage' signify
- (A) Children
 - (B) Persons
 - (C) Any Indian citizen who is of the age of 18 years and above
 - (D) None of the above
- 336.** Who makes law with respect to Elections for State Legislature
- (A) Parliament
 - (B) Judiciary
 - (C) Government
 - (D) Election Commission
- 337.** Under Constitutional Articles 327 or 328, which subject shall not be called to be questioned in any Court
- (A) Delimitation of Constituencies
 - (B) The allotment of seats to such Constituency
 - (C) A & B
 - (D) None of the above
- 338.** How the election to either House of Parliament or to either House of the Legislature of the State shall be called in question in the courts whose manner of presentation may be provided made by law by appropriate Legislature
- (A) PIL (Public Interest Litigation)
 - (B) SLP (Special Leave Petition)
 - (C) Action under Article 32
 - (D) Election Petition
- 339.** Which Constitutional Article lays down the reservation of seats for Scheduled Castes and Scheduled Tribes in the Lok Sabha
- (A) Article 330
 - (B) Article 332
 - (C) Article 333
 - (D) Article 334
- 340.** Which Constitutional Article deals with 'Representation of the Anglo-Indian Community' with House of the People
- (A) Article 334
 - (B) Article 331
 - (C) Article 332
 - (D) Article 333
- 341.** Under Article 331, how many members of the Anglo-Indian Community can be nominated in Lok Sabha by the President
- (A) 3
 - (B) 4
 - (C) 2
 - (D) 1
- 342.** In which State a separate district has been reserved for Scheduled Tribes
- (A) Assam
 - (B) Andhra Pradesh
 - (C) Karnataka
 - (D) Kerala
- 343.** Which Constitutional Article deals with representation of the Anglo-Indian Community in the Legislative Assembly
- (A) Article 334
 - (B) Article 335
 - (C) Article 336
 - (D) Article 333
- 344.** Under Article 333, how many members from the Anglo-Indian Community can be nominated by the Governor in the Legislative Assembly

- (A) 8
(B) 1
(C) 4
(D) 3
- 345.** Under which Constitutional Amendment of Article 334, reservation of seats for Scheduled Castes and Scheduled Tribes in the Lok Sabha and State Legislative Assembly has been laid down
(A) 31st Amendment Act 1959
(B) 23rd Amendment Act
(C) 45th Amendment Act 1980 & 62nd Amendment Act 1989
(D) All the above
- 346.** Before which Constitutional Amendment, 20 years were fixed for reservation of seats for Scheduled Castes and Scheduled Tribes in Lok Sabha and State Legislature
(A) 23rd Amendment Act 1969
(B) 8th Amendment Act 1959
(C) 44th Amendment Act 1978
(D) 45th Amendment Act 1980
- 347.** Through which Constitutional Amendment, 30 years were fixed for reservation of seats for SC and ST in Lok Sabha and State Assembly
(A) 45th Amendment Act 1980
(B) 50th Amendment Act 1984
(C) 23rd Amendment Act 1969
(D) 51st Amendment Act 1984
- 348.** Which Constitutional Amendment fixes 40 years for reservation of seats for SC and ST in Lok Sabha and State Legislative Assembly.
(A) 55th Amendment Act 1986
(B) 56th Amendment Act 1987
(C) 52nd Amendment Act 1985
(D) 45th Amendment Act 1980
- 349.** Which Constitutional Amendment lays down 50 years for reservation of seats for SC and ST in the House of People and State Legislative Assembly
(A) 62nd Amendment Act 1989
(B) 44th Amendment Act 1928
(C) 45th Amendment Act 1980
(D) None of the above
- 350.** Which Constitutional Article mentions Claims of SC and ST in Govt. services and post
(A) Article 336
(B) Article 335
(C) Article 338
(D) Article 339
- 351.** Which Constitutional Article lays down the provision for a National Commission for SC and ST
(A) Article 337
(B) Article 334
(C) Article 338
(D) Article 339
- 352.** Which community gets special provision for Central Services in Article 336
(A) Sikh Community
(B) Muslim Community
(C) Hindu Community
(D) Anglo-Indian Community
- 353.** At the time of commencement of the Indian Community how many years were laid down for appointment to the post in the Railways, Customs, Postal & Telegraph services for the Anglo-Indian community
(A) 2 years
(B) 5 years
(C) 4 years
(D) 6 years

- 354.** What shall be the composition of National Commission for SC and ST
- (A) Chairperson
 - (B) Vice-Chairperson
 - (C) Five other members
 - (D) All the above
- 355.** National Commission for SC and ST shall be made by which constitutional institution
- (A) Parliament
 - (B) Executive
 - (C) Judiciary
 - (D) State Legislature
- 356.** Which Constitutional Article defines the SC
- (A) Article 345
 - (B) Article 346
 - (C) Article 341
 - (D) Article 342
- 357.** Which Constitutional Article defines the ST
- (A) Article 345
 - (B) Article 343
 - (C) Article 347
 - (D) Article 342
- 358.** Which Constitutional Article specifies official language of the Union
- (A) Article 343
 - (B) Article 344
 - (C) Article 345
 - (D) Article 346
- 359.** Under Constitutional Article 343, which is the official language of the Union
- (A) Urdu
 - (B) Hindi
 - (C) English
 - (D) b & c
- 360.** Which Constitutional Article empowers the State Legislature to adopt Hindi or any state language as the official language of that state
- (A) Article 345
 - (B) Article 346
 - (C) Article 348
 - (D) Article 349
- 361.** Whose satisfaction is required under Constitutional Article 347 regarding special provision for creating language spoken by a section of the population of a state
- (A) Parliament
 - (B) Judiciary
 - (C) President
 - (D) Prime Minister
- 362.** Which Constitutional Article defines official language for communication between the state and another state and the Union
- (A) Article 349
 - (B) Article 346
 - (C) Article 243
 - (D) Article 305
- 363.** Which Constitutional Article defines the Panchayat Raj
- (A) 243O
 - (B) 243A
 - (C) 243
 - (D) 243I
- 364.** In the Indian Constitution, which type of the Sabha is mentioned under Panchayat Raj
- (A) District Sabha
 - (B) Gram Sabha
 - (C) Nagar Panchayat Sabha
 - (D) Zila Sabha

- 365.** Under Constitutional Article 243, what is the meaning of Panchayat
- (A) Self Gram Panchayat Raj
 - (B) Government of Village
 - (C) Self Government
 - (D) None of the above
- 366.** Under Constitutional Article 243D, in Panchayat who gets reservation
- (A) Scheduled Caste
 - (B) Scheduled Tribes
 - (C) A & B
 - (D) None of the above
- 367.** Who make composition of Panchayat under Constitutional Article 243
- (A)
 - (B) State Assembly
 - (C) Lok Sabha
 - (D) Council of State
 - (E) Legislature of State
- 368.** Which Constitutional Article defines disqualification for the members of Panchayat
- (A) Article 243F
 - (B) Article 243G
 - (C) Article 243I
 - (D) None of the above
- 369.** Which Constitutional Article defines the duration of the Panchayat
- (A) Article 243N
 - (B) Article 243O
 - (C) Article 243E
 - (D) Article 243B
- 370.** Which Constitutional Article define 'Municipalities'
- (A) Article 243P
 - (B) Article 243Q
 - (C) Article 243T
 - (D) Article 343U
- 371.** Which Constitutional Article defines 'constitution of Municipalities'
- (A) Article 243M
 - (B) Article 243I
 - (C) Article 243L
 - (D) Article 243Q
- 372.** Constitutionally, who notifies the phenomenal area of
- (A) Parliament
 - (B) Governor
 - (C) Chief Minister
 - (D) State Government
- 373.** A Municipal Council is situated in which area
- (A) Larger Urban area
 - (B) Urban area
 - (C) Smaller Urban area
 - (D) None of the above
- 374.** Governor issues a notification for which areas on the subject of constitution of Municipal area
- (A) A Transitional Area
 - (B) A Smaller Urban Area
 - (C) A Larger Urban Area
 - (D) All the above
- 375.** For Election of Members to Lok Sabha and Legislative Assembly, electoral constituencies comprise wholly or partly of which area
- (A) A Transitional Area
 - (B) Municipal Area
 - (C) Legislative Council
 - (D) None of the above
- 376.** Where wards Committees are found
- (A) Gram Sabha
 - (B) Gram Panchayat
 - (C) Municipalities
 - (D) None of the above

- 377.** Under Constitutional Article 343D, a metropolitan area represent how many number of population
 (A) Ten Lakhs or more
 (B) Fifteen Lakhs or more
 (C) Less than Ten Lakhs
 (D) Less than Five Lakhs
- 378.** Under Constitutional Article 243U, what is the maximum duration of Municipalities
 (A) 4 years
 (B) 6 years
 (C) 5 years
 (D) 3 years
- 379.** Which Constitutional Article defines Election to Municipalities
 (A) Article 243A
 (B) Article 243ZA
 (C) Article 243ZB
 (D) Article 243P
- 380.** Through which Constitutional Amendment, Municipalities continued to be in force in the state which existed before commencement of the Indian constitution
 (A) Seventy-fourth Amendment Act 1992
 (B) Forty-fourth Amendment Act 1978
 (C) Forty-fifth Amendment Act 1989
 (D) Forty-seventh Amendment Act 1984
- 381.** The Constitution of India, was drafted and enacted in which language
 (A) Hindi
 (B) English
 (C) Tamil
 (D) Telugu
- 382.** In Article 394A which language is the authoritative text of the constitution of India
 (A) Punjabi
 (B) Manipuri
 (C) Hindi
 (D) Urdu
- 383.** Which Constitutional Article states This Constitution may be called the Constitution of India
 (A) Article 397
 (B) Article 396
 (C) Article 395
 (D) Article 394
- 384.** Which Constitutional Article states that Hindi is the official language
 (A) Article 343
 (B) Article 346
 (C) Article 345
 (D) Article 347
- 385.** In which language script, Constitution of India was signed by the members of the Constituent Assembly on 21st Jan. 1950
 (A) English
 (B) Hindi
 (C) A & B
 (D) None of the above
- 386.** Which Constitutional Article defines the Provision in case of failure of Constitutional Authority in the state
 (A) Article 356
 (B) Article 357
 (C) Article 353
 (D) Article 351
- 387.** After which report, President promulgates President Rule in the State
 (A) Prime Minister
 (B) Union Home Minister
 (C) Chief Minister
 (D) Governor
- 388.** Who has the Authority to approve President Rule in the state
 (A) Parliament
 (B) Lok Sabha
 (C) State Legislature
 (D) Council of State

- 389.** Who has the constitutional power not to approve 'President Rule' in the state under Article 356
- (A) Prime Minister
(B) Parliament
(C) Union Council of Ministers
(D) State Government
- 390.** In case President Rule in the state is not approved by the Parliament, For how many months the same promulgation shall last .
- (A) Four Months
(B) Two Months
(C) Three Months
(D) Six Months
- 391.** Under Article 356 Governor shall not be bound by whose advice
- (A) Chief Minister Council of Ministers
(B) President
(C) Prime Minister
(D) None of the above
- 392.** In which Supreme Court Judgement. it has been pronounced that 'Article 356 cannot be invoked unless it can be held that government of the state cannot be run in accordance with the provision of the Constitution'
- (A) Arun vs. Union of India A.I.R. 1992 Allahabad S.C. 1918
(B) S. R. Bommai vs. Union of India A.I.R. 1990 Kant 95
(C) A & B
(D) None of the above
- 393.** In which Supreme Court Judgement it has been pronounced that the Union Government cannot dismiss a duly elected State Government on the sole ground that the ruling party in the state suffered an overwhelming defeat in the election of the Lok Sabha
- (A) S. R. Bommai vs. Union of India A.I.R. 1994 S.C. 1916
(B) State of Rajasthan vs. Union of India A.I.R. 1977 S.C. 1361
(C) A & B
(D) None of the above
- 394.** How many Schedules are incorporated in the Constitution of India
- (A) Eleventh Schedule
(B) Tenth Schedule
(C) Ninth Schedule
(D) Twelfth Schedule
- 395.** Which Constitutional Article lays down distribution of work through the Union List, State List, and Concurrent List between the Union and State
- (A) 246
(B) 247
(C) 248
(D) 249
- 396.** In the Union List, how many subjects are incorporated
- (A) 95
(B) 92
(C) 97
(D) 99
- 397.** In the State List, how many subjects are included
- (A) 65
(B) 66
(C) 64
(D) 63
- 398.** In the Concurrent list, how many subjects have been included
- (A) 42
(B) 43
(C) 45
(D) 47

399. Constitutionally, how a law can be made out of the subject in the Concurrent List

- (A) Union
- (B) State
- (C) Council of State
- (D) A & B

400. Constitutionally, who has the power to make a law on the subject mentionable in the Union List

- (A) Lok Sabha
- (B) Parliament
- (C) Rajya Sabha
- (D) Legislative Council

8. Reading comprehension

Reading Comprehension questions are designed to test a wide range of abilities that are required in order to read and understand the abilities of CBSE NET candidate. Those abilities include:

- understanding the meaning of individual words and sentences
- understanding the meaning of paragraphs and larger bodies of text
- distinguishing between minor and major points
- summarizing a passage
- drawing conclusions from the information provided
- reasoning from incomplete data to infer missing information
- understanding the structure of a text in terms of how the parts relate to one another
- identifying the author's assumptions and perspective
- analyzing a text and reaching conclusions about it
- identifying strengths and weaknesses of a position
- developing and considering alternative explanations

As this list implies, reading and understanding a piece of text requires far more than a passive understanding of the words and sentences it contains; it requires active engagement with the text, asking questions, formulating and evaluating hypotheses and reflecting on the relationship of the particular text to other texts and information.

Read the following passage carefully and answer questions:

NET-August 2016

Many aspects of the motion-picture industry and its constituent companies are dissimilar to those observable in advanced-technology industries and firms. For instance, company longevity does not represent a consistent concern across the two organisational contexts. In the advanced-technology company for example, one new-product innovation - which is expected to generate financial returns to the firm - is insufficient for the company to be successful.

Rather, a stream of new product innovations is required. By contrast with the independent production company of this case, each new film - which is expected to generate financial returns to the principals - is sufficient for the company to be successful. Any subsequent new

films involving the firm's participants will be produced by a different independent company. As another instance, people's learning is expected to have different contributors and beneficiaries across the two organizational contexts. In the advanced-technology company, for example, each new product innovation provides an opportunity for participants on the project team to learn and acquire experience, and this same company intends to retain such participants, hence, benefit from their increased experience on the next project. By contrast with the independent production company, each new film provides an opportunity for participants on the project team to learn and acquire this experience also, but this same company has little or no expectation of retaining such participants, and hence, benefitting from their increased experience in the next project.

Experience is paramount in the motion-picture industry. Generally, on film projects, budgets are very tight, and schedules are very demanding. People are hired largely based on their experience and are expected to perform well immediately when called to do so. There is negligible slack time or margin for learning through trial and error, but experienced people learn exactly through trial and error. Because experience is valued so highly and film-production houses have such short time horizons, entry into the industry is very difficult for most people. Further, the role played by schools and colleges is minimal in this industry. Some skills and techniques can be learned and refined through formal education (e.g., acting schools, theatre, film degrees), but the majority come through direct experience. Mentoring plays an important role. True, the film business focuses heavily on exploitation over exploration. Yet success of the industry as a whole is critically dependent upon learning and exploration overtime.

1. What is not a consistent concern across the two organisational contexts ?
 - (A) Dissimilarity
 - (B) Product package
 - (C) Financial return
 - (D) Company longevity
2. What will be sufficient for an independent production company to be successful ?
 - (A) New product innovations
 - (B) Financial returns from each new film
 - (C) Active role by firm's participants
 - (D) Organisational context
3. What does an advanced-technology company expect from the learning experience of its participants ?
 - (A) Benefit for the next project
 - (B) Opportunity for more learning
 - (C) Little expectation of retaining them
 - (D) Help in marketing the previous product
4. What is not the expectation of an independent production company in the case of its participants?
 - (A) Absence from the next project.
 - (B) Retention for the next project.
 - (C) Participation in the current project.
 - (D) Use of opportunity to acquire experience.
5. Why do film production houses value experience highly ?
 - (A) Because of the importance of trial and error methods.
 - (B) Because of the margin for learning.
 - (C) Because of short time horizons.
 - (D) Because it allows easy entry to everyone into the film world.

1. D 2. B 3. A 4. B 5. C

6. According to the author, what has been the focus of film business ?
- (A) Formal education (B) Mentoring
(C) Exploitation (D) Indirect experience

6. C

Read the following passage carefully and answer questions:

NET-JULY 2016

In terms of labour, for decades the relatively low cost and high quality of Japanese workers conferred considerable competitive advantage across numerous durable goods and consumer-electronics industries (eg. Machinery, automobiles, televisions, radios). Then labour-based advantages shifted to South Korea, then to Malaysia, Mexico and other nations. Today, China appears to be capitalizing best on the basis of labour, Japanese firms still remain competitive in markets for such durable goods, electronics and other products, but the labour force is no longer sufficient for competitive advantage over manufacturers in other industrializing nations. Such shifting of labour-based advantage is clearly not limited to manufacturing industries. Today a huge number of IT and service jobs are moving from Europe and North America to India, Singapore, and like countries with relatively well-educated, low-cost workforces possessing technical skills. However, as educational levels and technical skills continue to rise in other countries, India, Singapore and like nations enjoying labour-based competitive advantage today are likely to find such advantage cannot be sustained through emergence of new competitors.

In terms of capital, for centuries the days of gold coin and later even paper money restricted financial flows. Subsequently regional concentrations were formed where large banks, industries and markets coalesced. But today capital flows internationally at rapid speed. Global commerce no longer requires regional interactions among business players. Regional capital concentrations in places such as New York, London and Tokyo still persist, of course, but the capital concentrated there is no longer sufficient for competitive advantage over other capitalists distributed worldwide. Only if an organization is able to combine, integrate and apply its resources (eg. Land, labour, capital, IT) in an effective manner that is not readily imitable by competitors can such an organization enjoy competitive advantage sustainable overtime.

In a knowledge-based theory of the firm, this idea is extended to view organizational knowledge as resource with atleast the same level of power and importance as the traditional economic inputs. An organization with superior knowledge can achieve competitive advantage in markets that appreciate the application of such knowledge. Semiconductors, genetic engineering, pharmaceuticals, software, military warfare, and like knowledge-intensive competitive arenas provide both time-proven and current examples. Consider semiconductors (e. g. computer chips), which are made principally of sand and common metals, these ubiquitous and powerful electronics devices are designed within common office buildings, using commercially available tools, and fabricated within factories in many industrialized nations. Hence, land is not the key competitive recourse in the semiconductor industry.

1. What is required to ensure competitive advantages in specific markets?
 - (A) Access to capital
 - (B) Common office buildings
 - (C) Superior knowledge
 - (D) Common metals
2. The passage also mentions about the trend of
 - (A) Global financial flow
 - (B) Absence of competition in manufacturing industry
 - (C) Regionalisation of capitalists
 - (D) Organizational incompatibility
3. What does the author lay stress on in the passage?
 - (A) International commerce
 - (B) Labour-Intensive industries
 - (C) Capital resource management
 - (D) Knowledge-driven competitive advantage
4. Which country enjoyed competitive advantages in automobile industry for decades?
 - (A) South Korea
 - (B) Japan
 - (C) Mexico
 - (D) Malaysia
5. Why labour-based competitive advantages of India and Singapore cannot be sustained in IT and service sectors?
 - (A) Due to diminishing levels of skill.
 - (B) Due to capital-intensive technology making inroads.
 - (C) Because of new competitors.
 - (D) Because of shifting of labour-based advantage in manufacturing industries.
6. How can an organization enjoy competitive advantage sustainable overtime?
 - (A) Through regional capital flows.
 - (B) Through regional interactions among business players.
 - (C) By making large banks, industries and markets coalesced.
 - (D) By effective use of various instrumentalities.

1. C 2. A 3. D 4. B 5. C 6. D

Read the following passage carefully and answer questions:

NET- December 2015

I did that thing recently where you have to sign a big card -which is a horror unto itself, especially as the keeper of the Big Card was leaning over me at the time. Suddenly I was on the spot, a rabbit in the headlights, torn between doing a fun message or some sort of in-joke or a drawing. Instead overwhelmed by the myriad options available to me, I decided to just write "Good luck, best, Joel".

It was then that I realised, to my horror, that I had forgotten how to write. My entire existence is "tap letters into computer". My shopping lists are hidden in the notes function of my phone. If I need to remember something I send an e-mail to myself. A pen is something I chew when I'm struggling to think. Paper is something I pile beneath my laptop to make it a more comfortable height for me to type on.

A poll of 1,000 teens by the stationers, Bic found that one in 10 don't own a pen, a third have never written a letter, and half of 13 to 19 years - old have never been forced to sit down and write a thank you letter. More than 80% have never written a love letter, 56% don't have letter paper at home. And a quarter have never known the unique torture of writing a

birthday card. The most a teen ever has to use a pen is on an exam paper. Bic, have you heard of mobile phones ? Have you heard of e-mail, facebook and snap chatting? This is the future. Pens are dead. Paper is dead. Handwriting is a relic. "Handwriting is one of the most creative outlets we have and should be given the same importance as other art forms such as sketching, painting or photography." Answer the following questions:

1. When confronted with signing a big card, the author felt like "a rabbit in the headlight". What does this phrase mean?
 - (A) A state of confusion
 - (B) A state of pleasure
 - (C) A state of anxiety
 - (D) A state of pain
2. According to the author, which one is not the most creative outlet of pursuit?
 - (A) Handwriting
 - (B) Photography
 - (C) Sketching
 - (D) Reading
3. The entire existence of the author revolves round
 - a) Computer
 - b) Mobile phone
 - c) Typewriter
4. How many teens, as per the Bic survey, do not own a pen?
 - (A) 800
 - (B) 560
 - (C) 500
 - (D) 100
5. What is the main concern of the author?
 - (A) That the teens use social networks for communication.
 - (B) That the teens use mobile phones.
 - (C) That the teens use computer.
 - (D) That the teens have forgotten the art of handwriting.

1. A 2. D 3. B 4. D 5. D

Read the following passage carefully and answer questions:

NET-June 2015

Story telling is not in our genes. Neither it is an evolutionary history. It is the essence of what makes us Human.

Human beings progress by telling stories. One event can result in a great variety of stories being told about it. Sometimes those stories differ greatly. Which stories are picked up and repeated and which ones are dropped and forgotten often determines how we progress. Our history, knowledge and understanding are all the collections of the few stories that survive. This includes the stories that we tell each other about the future. And how the future will turn out depends partly, possibly largely, on which stories we collectively choose to believe. Some stories are designed to spread fear and concern. This is because some story-tellers

feel that there is a need to raise some tensions. Some stories are frightening, they are like totemic warnings : "Fail to act now and we are all doomed." Then there are stories that indicate that all will be fine so long as we leave everything upto a few especially able adults. Currently, this trend is being led by those who call themselves "rational optimists". They tend to claim that it is human nature to compete and to succeed and also to profit at the expense of others. The rational optimists however, do not realize how humanity has progressed overtime through amiable social networks and how large groups work in less selfishness and in the process accommodate rich and poor, high and low alike. This aspect in story-telling is considered by the 'Practical Possibles', who sit between those who say all is fine and cheerful and be individualistic in your approach to a successful future, and those who ordain pessimism and fear that we are doomed. What the future holds for us is which stories we hold on to and how we act on them.

1. Our knowledge is a collection of
 - (A) all stories that we have heard during our life-time
 - (B) some stories that we remember
 - (C) a few stories that survive
 - (D) some important stories
2. Story telling is
 - (A) an art
 - (B) a science
 - (C) in our genes
 - (D) the essence of what makes us human
3. How the future will turn out to be, depends upon the stories
 - (A) We collectively choose to believe in
 - (B) Which are repeatedly narrated
 - (C) Designed to spread fear and tension
 - (D) Designed to make prophecy
4. Rational optimists :
 - a) Look for opportunities
 - b) Are sensible and cheerful
 - c) Are selfishly driven
5. Humans become less selfish when
 - (A) they work in large groups
 - (B) they listen to frightening stories
 - (C) they listen to cheerful stories
 - (D) they work in solitude
6. Practical Possibles' are the ones who
 - (A) follow Midway Path
 - (B) are doom-mongers
 - (C) are self-centred
 - (D) are cheerful and carefree

1. C 2. D 3. A 4. D 5. A 6. A

Read the following passage carefully and answer questions:

NET- December 2014

The literary distaste for politics, however, seems to be focused not so much on the largely murky practice of politics in itself as a subject of literary representation but rather more on how it is often depicted in literature, i.e., on the very politics of such representation. A

political novel often turns out to be not merely a novel about politics but a novel with a politics of its own, for it seeks not merely to show us how things are but has fairly definite ideas about how things should be, and precisely what one should think and do in order to make things move in that desired direction. In short, it seeks to convert and enlist the reader to a particular cause or ideology; it often is (in an only too familiar phrase) not literature but propaganda. This is said to violate the very spirit of literature which is to broaden our understanding of the world and the range of our sympathies rather than to narrow them down through partisan commitment. As John Keats said, 'We hate poetry that has a palpable design upon us'.

Another reason why politics does not seem amenable to the highest kind of literary representation seems to arise from the fact that politics by its very nature is constituted of ideas and ideologies. If political situations do not lend themselves to happy literary treatment, political ideas present perhaps an even greater problem in this regard. Literature, it is argued, is about human experiences rather than about intellectual abstractions; it deals in what is called the 'felt reality' of human flesh and blood, and in sap and savour. (rasa) rather than in and lifeless ideas. In an extensive discussion of the matter in her book *Ideas and the Novel*, the American novelist Mary McCarthy observed that 'ideas are still today felt to be unsightly in the novel' though that was not so in 'former days', i.e., in the 18th and 19th centuries. Her formulation of the precise nature of the incompatibility between ideas on the one hand and the novel on the other betrays perhaps a divided conscience in the matter and a sense of dilemma shared by many writers and readers: 'An idea cannot have loose ends, but a novel, I almost think, needs them. Nevertheless, there is enough in common for the novelists to feel... the attraction of ideas while taking up arms against them — most often with weapons of mockery.'

1. The constructs of politics by its nature is
 - (A) Prevalent political situation
 - (B) Ideas and Ideologies
 - (C) Political propaganda
 - (D) Understanding of human nature
2. Literature deals with
 - (A) Human experiences in politics
 - (B) Intellectual abstractions
 - (C) Dry and empty ideas
 - (D) Felt reality of human life
3. The observation of the novelist, May McCarthy reveals
 - (A) Unseen felt ideas of today in the novel
 - (B) Dichotomy of conscience on political ideas and novels
4. According to the passage, a political novel often turns out to be a
 - (A) Literary distaste for politics
 - (B) Literary representation of politics
 - (C) Novels with its own politics
 - (D) Depiction of murky practice of politics
5. A political novel reveals
 - (A) Reality of the things
 - (B) Writer's perception
 - (C) Particular ideology of the readers
 - (D) The spirit of literature

1. C 2. D 3. B 4. C 5. B

Read the following passage carefully and answer questions:

NET-June 2014

Traditional Indian Values must be viewed both from the angle of the individual and from that of the geographically delimited agglomeration of peoples or groups enjoying a common system of leadership which we call the 'State'. The Indian 'State's' special feature is the peaceful, or perhaps mostly peaceful, co-existence of social groups of various historical provenances which manually adhere in a geographical, economic and political sense, without ever assimilating to each other in social terms, in ways of thinking, or even in language. Modern Indian law will determine certain rules, especially in relation to the regime of the family, upon the basis of how the loin-cloth is tied, or how the turban is worn, for this may identify the litigants as members of a regional group, and therefore as participants in it traditional law, though their ancestors left the region three or four centuries earlier. The use of the word 'State' above must not mislead us. There was no such thing as a conflict between the individual and the State, at least before foreign governments became established, just as there was no concept of state 'sovereignty' or of any church-and-state dichotomy. Modern Indian 'secularism' has an admittedly peculiar feature: It requires the state to make a fair distribution of attention amongst all religions. These blessed aspects of India's famed tolerance (Indian kings to rarely persecuted religious groups that the exceptions prove the rule) at once struck Portuguese and other European visitors to the West Coast of India in the sixteenth century, and the impression made upon them in this and other ways gave rise, at one remove, to the basic constitution of Thomas More's Utopia. There is little about modern India that strikes one at once as Utopian but the insistence upon the inculcation of norms, and the absence of bigotry and institutionalized exploitation of human or natural resources, are two very different features which link the realities of India and her tradition with the essence of all Utopians.

1. Which of the following is a special feature of the Indian state?
 - (A) peaceful co-existence of people under a common system of leadership
 - (B) peaceful co-existence of social groups of different historical provenances attached to each other in a geographical, economical and political sense
 - (C) Social integration of all groups
 - (D) Cultural assimilation of all social groups
2. The author uses the word 'State' to highlight
 - (A) Antagonistic relationship between the state and the individual throughout the period of history.
 - (B) Absence of conflict between the state and the individuals upto a point in time.
 - (C) The concept of state sovereignty
 - (D) Dependence of religion
3. Which one is the peculiar feature of modern Indian 'secularism'?
 - (A) No discrimination on religious considerations
 - (B) Total indifference to religion
 - (C) No space for social identity
 - (D) Disregard for social law
4. The basic construction of Thomas More's Utopia was inspired by
 - (A) Indian tradition of religious tolerance

1. B 2. B 3. A 4. A

- (B) Persecution of religious groups by Indian rulers
 (C) Social inequality in India
 (D) European perception of Indian State
5. What is the striking feature of modern India?
- (A) A replica of Utopian State
 (B) Uniform Laws
 (C) Adherence to traditional values
 (D) Absence of Bigotry

5. D

Read the following passage carefully and answer questions:

NET-December 2013

Heritage conservation practices improved worldwide after the International Centre for the Study of the Preservation and Restoration of Cultural Property. (ICCROM) was established with UNESCO's assistance in 1959. The inter-governmental organisation with 126 member states has done a commendable job by training more than 4,000 professionals, providing practice standards, and sharing technical expertise. In this golden jubilee year, as we acknowledge its key role in global conservation, an assessment of international practices would be meaningful to the Indian conservation movement. Consistent investment, rigorous attention, and dedicated research and dissemination are some of the positive lessons to imbibe. Countries such as Italy have demonstrated that prioritizing heritage with significant budget provision pays. On the other hand, India, which is no less endowed in terms of cultural capital, has a long way to go. Surveys indicate that in addition to the 6,600 protected monuments, there are over 60,000 equally valuable heritage structures that await attention. Besides the small group in the service of Archaeological Survey of India, there are only about 150 trained conservation professionals. In order to overcome this severe shortage the emphasis has been on setting up dedicated labs and training institutions. It would make much better sense for conservation to be made part of mainstream research and engineering Institutes, as has been done in Europe.

Increasing funding and building institutions are the relatively easy part. The real challenge is to redefine international approaches to address local contexts. Conservation cannot limit itself to enhancing the art-historical value of the heritage structures which international charters perhaps over emphasize. The effort has to be broad-based. It must also serve as a means to improving the quality of life in the area where the heritage structures are located. The first task therefore is to integrate conservation efforts with sound development plans that take care of people living in the heritage vicinity. Unlike in western countries, many traditional building crafts survive in India, and conservation practices offer an avenue to support them. This has been acknowledged by the Indian National Trust for Art and Cultural Heritage charter for conservation but is yet to receive substantial state support. More strength for heritage conservation can be mobilised by aligning it with the green building movement. Heritage structures are essentially eco-friendly and conservation could become a vital part of the sustainable building practices campaign in future.

1. The outlook for conservation heritage changed
- (A) after the establishment of the International Centre for the Study of the Preservation and Restoration of Cultural Property

1. A

- (B) after training the specialists in the field.
- (C) after extending UNESCO's assistance to the educational institutions.
- (D) after ASI's measures to protect the monuments.
- 2.** The inter-government organization was appreciated because of
- (A) increasing number of members to 126.
- (B) imparting training to professionals and sharing technical expertise.
- (C) consistent investment in conservation.
- (D) its proactive role in renovation and restoration
- 3.** Indian conservation movement will be successful if there would be
- (A) Financial support from the Government of India.
- (B) Non-governmental organisations role and participation in the conservation movement.
- (C) consistent investment, rigorous attention, and dedicated research and dissemination of awareness for conservation
- (D) Archaeological Survey of India's meaningful assistance.
- 4.** As per the surveys of historical monuments in India, there is very small number of protected monuments. As per given the total number of monuments and enlisted number of protected monuments percentage comes to
- (A) 10 percent
- (B) 11 percent
- (C) 12 percent
- (D) 13 percent
- 5.** What should India learn from Europe to conserve our cultural heritage?
- i) There should be significant budget provision to conserve our cultural heritage.
- ii) Establish dedicated labs and training institutions.
- iii) Force the government to provide sufficient funds.
- iv) Conservation should be made part of mainstream research and engineering institutes.
- Choose the correct statement
- (A) (i), (ii), (iii), (iv)
- (B) (i), (ii), (iv)
- (C) (i), (ii)
- (D) (i), (iii), (iv)
- 6.** INTACH is known for its contribution for conservation of our cultural heritage. The full form of INTACH is
- (A) International Trust for Art and Cultural Heritage.
- (B) Intra-national Trust for Art and Cultural Heritage.
- (C) Integrated Trust for Art and Cultural Heritage.
- (D) Indian National Trust for Art and Cultural Heritage.

2. B 3. C 4. B 5. B 6. D

Read the following passage carefully and answer questions:

NET-September 2013

I had occasion to work with her closely during the Women's International Year in 1975 when she was chairing a Steering Committee and made me the member in charge of publicity. Representatives from different political parties and women's organizations were on the committee and though the leftists claimed a sort of proprietary right over her, Aruna encouraged and treated all members alike. It was not her political affiliations or her involvement in a particular cause, which won her respect and recognition, but her utter honesty in public life, her integrity and her compassion for the oppressed which made her an adorable person. She had the courage to differ with and defy the mightiest in the land; yet her human spirit prompted her to work in the worst of slums to offer succour to the poor and the exploited. In later years -around late eighties and early nineties - Aruna Asaf Ali's health began to deteriorate. Though her mind remained alert, she could not actively take up her pet causes - action for women's advancement, planning for economic justice, role of media, reaffirmation of values in public affairs etc. Slowly, her movements were restricted and Aruna who had drawn sustenance from common people, from her involvement in public life, became a lonely person. She passed away in July 1996.

1. Which Committee was chaired by Aruna ?
 - (A) Women's International Year's Committee
 - (B) Steering Committee of Women's International Year
 - (C) A Committee of Publicity
 - (D) Women's Organizations
2. Who were made the members of the Committee of Publicity ? Choose the answer from codes given below :
 - i) Representatives from different political parties.
 - ii) Representatives from the leftist parties.
 - iii) Representatives from the women's organizations.
 - iv) None of the above.

Codes :

 - (A) (i), (iii)
 - (B) (i), (ii)
 - (C) (i), (ii), (iii)
 - (D) (iv)
3. Aruna earned respect because of
 - (A) she identified with the leftists
 - (B) she did not associate with any political party
 - (C) chairing a Steering Committee
 - (D) she identified with women's organizations
4. Who tried to monopolize Aruna as their proprietary right ?
 - (A) Women Organizations
 - (B) Leftists
 - (C) Steering Committee
 - (D) Some Political Parties
5. Aruna's health began to deteriorate from
 - (A) 1985 - 2002
 - (B) 1998 - 2000
 - (C) 1981 - 2000
 - (D) 1989 - 2001
6. Aruna's pet cause(s) in her life was/ were
 - (A) Role of media
 - (B) Economic justice
 - (C) Reaffirmation of values in public affairs
 - (D) All the above

1. B 2. A 3. B 4. B 5. C 6. D

Read the following passage carefully and answer questions:

NET-June 2013

The Taj Mahal has become one of the world's best known monuments. This domed white marble structure is situated on a high plinth at the southern end of four-quartered garden, evoking the gardens of paradise, enclosed within walls measuring 305 by 549 meters. Outside the walls, in an area known as Mumtazabad, were living quarters for attendants, market, serials and other structures built by local merchants and nobles. The tomb complex and the other imperial structures of Mumtazabad were maintained by the income of thirty villages given specifically for the tomb's support. The name Taj Mahal is unknown in Mughal chronicles, but it is used by contemporary Europeans in India, suggesting that this was the tomb's popular name. In contemporary texts, it is generally called simply the illuminated Tomb (Rauza-i-Munavvara).

Mumtaz Mahal died shortly after delivering her fourteenth child in 1631. The Mughal court was then residing in Burhanpur. Her remains were temporarily buried by the grief-stricken emperor in a spacious garden known as Zainabad on the bank of the river Tapti. Six months later her body was transported to Agra, where it was interred in land chosen for the mausoleum. This land, situated south of the Mughal city on the bank of the Jamuna, had belonged to the Kachwaha rajas since the time of Raja Man Singh and was purchased from the then current raja, Jai Singh. Although contemporary chronicles indicate Jai Singh's willing cooperation in this exchange, extant farmans (imperial commands) indicate that the final price was not settled until almost two years after the mausoleum's commencement. Jai Singh's further cooperation was insured by imperial orders issued between 1632 and 1637 demanding that he provide stone masons and carts to transport marble from the mines at Makrana, within his "ancestral domain", to Agra where both the Taj Mahal and Shah Jahan's additions to the Agra fort were constructed concurrently.

Work on the mausoleum was commenced early in 1632. Inscriptional evidence indicates much of the tomb was completed by 1636. By 1643, when Shah Jahan most lavishly celebrated the "Urs ceremony for Mumtaz Mahal", the entire complex was virtually complete.

- Marble stone used for the construction of the Taj Mahal was brought from the ancestral domain of Raja Jai Singh. The name of the place where mines of marble is
 - Burhanpur
 - Makrana
 - Amber
 - Jaipur
- The popular name Taj Mahal was given by
 - Shah Jahan
 - Tourists
 - Public
 - European travellers
- Point out the true statement from the following:
 - Marble was not used for the construction of the Taj Mahal.
 - Red sand stone is non-visible in the Taj Mahal complex.
 - The Taj Mahal is surrounded by a four-quartered garden known as Chahr Bagh.
 - The Taj Mahal was constructed to celebrate the "Urs ceremony for Mumtaz Mahal".
- In the contemporary texts the Taj Mahal is known
 - Mumtazabad

1. B 2. D 3. C 4. D

- (B) Mumtaz Mahal
(C) Zainabad
(D) Rauza-i-Munavvara
5. The Construction of the Taj Mahal was completed between the period
(A) 1632-1636 A.D.
(B) 1630-1643 A.D.
(C) 1632-1643 A.D.
- (D) 1636-1643 A.D.
6. The documents indicating the ownership of land, where the Taj Mahal was built, known as
(A) Farman
(B) Sale Deed
(C) Sale-Purchase Deed
(D) None of the above
5. C 6. A

Read the following passage carefully and answer questions:

NET-December 2012

The popular view of towns and cities in developing countries and of urbanization process is that despite the benefits and comforts it brings, the emergence of such cities connotes environmental degradation, generation of slums and squatters, urban poverty, unemployment, crimes, lawlessness, traffic chaos etc. But what is the reality? Given the unprecedented increase in urban population over the last 50 years from 300 million in 1950 to 2 billion in 2000 in developing countries, the wonder really is how well the world has coped, and not how badly.

In general, the urban quality of life has improved in terms of availability of water and sanitation, power, health and education, communication and transport. By way of illustration, a large number of urban residents have been provided with improved water in urban areas in Asia's largest countries such as China, India, Indonesia and Philippines. Despite that, the access to improved water in terms of percentage of total urban population seems to have declined during the last decade of 20th century, though in absolute numbers, millions of additional urbanites, have been provided improved services. These countries have made significant progress in the provision of sanitation services too, together, providing for an additional population of more than 293 million citizens within a decade (1990-2000). These improvements must be viewed against the backdrop of rapidly increasing urban population, fiscal crunch and strained human resources and efficient and quality-oriented public management.

1. The popular view about the process of urbanization in developing countries is
(A) Positive
(B) Negative
(C) Neutral
(D) Unspecified
2. The average annual increase in the number of urbanites in developing countries, from 1950 to 2000 A.D. was close to
(A) 30 million
(B) 40 million
(C) 50 million
(D) 60 million
3. The reality of urbanization is reflected in
(A) How well the situation has been managed.
(B) How badly the situation has gone out of control.

1. B 2. A 3. A

- (C) How fast has been the tempo of urbanization.
 (D) How fast the environment has degraded.
4. Which one of the following is not considered as an indicator of urban quality of life?
 (A) Tempo of urbanization
 (B) Provision of basic services
 (C) Access to social amenities
 (D) All the above
5. The author in this passage has tried to focus on
 (A) Extension of Knowledge
 (B) Generation of Environmental Consciousness
 (C) Analytical Reasoning
 (D) Descriptive Statement
6. In the above passage, the author intends to state
 (A) The hazards of the urban life
 (B) The sufferings of the urban life
 (C) The awareness of human progress
 (D) the limits to growth
4. A 5. C 6. D

Read the following passage carefully and answer questions:

NET-June 2012

James Madison said, "A people who mean to be their own governors must arm themselves with power that knowledge gives." In India, the Official Secrets Act, 1923 was a convenient smokescreen to deny members of the public access to information. Public functioning has traditionally been shrouded in secrecy. But in a democracy in which people govern themselves, it is necessary to have more openness. In the maturing of our democracy, right to information is a major step forward; it enables citizens to participate fully in the decision-making process that affects their lives so profoundly. It is in this context that the address of the Prime Minister in the Lok Sabha is significant. He said, "I would only like to see that everyone, particularly our civil servants, should see the Bill in a positive spirit; not as a draconian law for paralyzing Government, but as an instrument for improving Government-Citizen interface resulting in a friendly, caring and effective Government functioning for the good of our People." He further said, "This is an innovative Bill, where there will be scope to review its functioning as we gain experience. Therefore, this is a piece of legislation, whose working will be kept under constant reviews."

The Commission, in its Report, has dealt with the application of the Right to Information in Executive, Legislature and Judiciary. The judiciary could be a pioneer in implementing the Act in letter and spirit because much of the work that the Judiciary does is open to public scrutiny, Government of India has sanctioned an e-governance project in the Judiciary for about ₹ 700 crores which would bring about systematic classification, standardization and categorization of records. This would help the judiciary to fulfil its mandate under the Act. Similar capacity building would be required in all other public authorities. The transformation from nontransparency to transparency and public accountability is the responsibility of all three organs of State.

1. A person gets power
 - (A) by acquiring knowledge
 - (B) from the Official Secrets Act, 1923
 - (C) through openings
 - (D) by denying public information
2. Right to Information is a major step forward to
 - (A) enable citizens to participate fully in the decision making process
 - (B) to make the people aware of the Act
 - (C) to gain knowledge of administration
 - (D) to make the people Government friendly
3. The Prime Minister considered the Bill
 - (A) to provide power to the civil servants
 - (B) as an instrument for improving Government-citizen interface resulting in a friendly, caring and effective Government
 - (C) a draconian law against the officials
 - (D) to check the harassment of the people
4. The Commission made the Bill effective by
 - (A) extending power to the executive authorities
 - (B) combining the executive and legislative power
 - (C) recognizing Judiciary a pioneer in implementing the act in letter and spirit
 - (D) educating the people before its implementation
5. The Prime Minister considered the Bill innovative and hoped that
 - (A) It could be reviewed based on the experience gained on its functioning.
 - (B) The civil servants would see the Bill in a positive spirit.
 - (C) It would not be considered as a draconian law for paralyzing Government
 - (D) All the above
6. The transparency and public accountability is the responsibility of three organs of the State. These three organs are
 - (A) Lok Sabha, Rajya Sabha and Judiciary
 - (B) Lok Sabha, Rajya Sabha and Executive
 - (C) Judiciary, Legislature and the Commission
 - (D) Legislature, Executive and Judiciary

1. A 2. A 3. B 4. C 5. D 6. D

Read the following passage carefully and answer questions:

NET-December 2011

The catalytic fact of the twentieth century is uncontrollable development, consumerist society, political materialism, and spiritual devaluation. This inordinate development has led to the transcendental "second reality" of sacred perception that biologically transcendence is a part of human life. As the century closes, it dawns with imperative vigour that the "first reality" of enlightened rationalism and the "second reality" of the Beyond have to be harmonised in a worthy state of man. The de facto values describe what we are, they portray the "is" of our ethic, they are est values (Latin est means is). The ideal values tell us what we ought to be, they are esto values (Latin esto "ought to be"). Both have to be in the ebb and flow of consciousness. The ever new science and technology and the ever-perennial faith are two modes of one certainty, that is the wholeness of man, his courage to be, his

share in Being.

The materialistic foundations of science have crumbled down. Science itself has proved that matter is energy, processes are as valid as facts, and affirmed the non-materiality of the universe. The encounter of the “two cultures”, the scientific and the humane, will restore the normal vision, and will be the bedrock of a “science of understanding” in the new century. It will give new meaning to the ancient perception that quantity (measure) and quality (value) coexist at the root of nature. Human endeavours cannot afford to be humanistically irresponsible.

1. The problem raised in the passage reflects overall on
 - (A) Consumerism
 - (B) Materialism
 - (C) Spiritual devaluation
 - (D) Inordinate development
 2. The “de facto” values in the passage means
 - (A) What is
 - (B) What ought to be
 - (C) What can be
 - (D) Where it is
 3. According to the passage, the “first reality” constitutes
 - (A) Economic prosperity
 - (B) Political development
 - (C) Sacred perception of life
 - (D) Enlightened rationalism
 4. Encounter of the “two cultures”, the scientific and the human implies
 - (A) Restoration of normal vision
 - (B) Universe is both material and non-material
 - (C) Man is superior to nature
 - (D) Co-existence of quantity and quality in nature
 5. The contents of the passage are
 - (A) Descriptive
 - (B) Prescriptive
 - (C) Axiomatic
 - (D) Optional
 6. The passage indicates that science has proved that
 - (A) universe is material
 - (B) matter is energy
 - (C) nature has abundance
 - (D) humans are irresponsible
1. D 2. A 3. D 4. A 5. D 6. B

Read the following passage carefully and answer questions:

NET-June 2011

All historians are interpreters of text if they be private letters, Government records or parish birthlists or whatever. For most kinds of historians, these are only the necessary means to understanding something other than the texts themselves, such as a political action or a historical trend, whereas for the intellectual historian, a full understanding of his chosen texts is itself the aim of his enquiries. Of course, the intellectual history is particularly prone to draw on the focus of other disciplines that are habitually interpreting texts for purposes of their own, probing the reasoning that ostensibly connects premises and conclusions. Fur-

thermore, the boundaries with adjacent subdisciplines are shifting and indistinct: the history of art and the history of science both claim a certain autonomy, partly just because they require specialised technical skills, but both can also be seen as part of a wider intellectual history, as is evident when one considers, for example, the common stock of knowledge about cosmological beliefs or moral ideals of a period.

Like all historians, the intellectual historian is a consumer rather than a producer of “methods”. His distinctiveness lies in which aspect of the past he is trying to illuminate, not in having exclusive possession of either a corpus of evidence or a body of techniques. That being said, it does seem that the label “intellectual history” attracts a disproportionate share of misunderstanding.

It is alleged that intellectual history is the history of something that never really mattered. The long dominance of the historical profession by political historians bred a kind of philistinism, an unspoken belief that power and its exercise was “what mattered”. The prejudice was reinforced by the assertion that political action was never really the outcome of principles or ideas that were “more flapdoodle”. The legacy of this precept is still discernible in the tendency to require ideas to have “licensed” the political class before they can be deemed worthy of intellectual attention, as if there were some reasons why the history of art or science, of philosophy or literature, were somehow of interest and significance than the history of Parties or Parliaments. Perhaps in recent years the mirror-image of this philistinism has been more common in the claim that ideas of any one is of systematic expression or sophistication do not matter, as if they were only held by a minority.

1. An intellectual historian aims to fully understand
 - (A) the chosen texts of his own
 - (B) political actions
 - (C) historical trends
 - (D) his enquiries
2. Intellectual historians do not claim exclusive possession of
 - (A) conclusions
 - (B) any corpus of evidence
 - (C) distinctiveness
 - (D) habitual interpretation
3. The misconceptions about intellectual history stem from
 - (A) a body of techniques
 - (B) the common stock of knowledge
 - (C) the dominance of political historians
 - (D) cosmological beliefs
4. What is philistinism?
 - (A) Reinforcement of prejudice
 - (B) Fabrication of reasons
 - (C) The hold of land-owning classes
 - (D) Belief that power and its exercise matter
5. Knowledge of cosmological beliefs or moral ideas of a period can be drawn as part of
 - (A) literary criticism
 - (B) history of science
 - (C) history of philosophy
 - (D) intellectual history
6. The claim that ideas of any one is of systematic expression do not matter, as if they were held by a minority, is
 - (A) to have a licensed political class
 - (B) a political action
 - (C) a philosophy of literature
 - (D) the mirror-image of philistinism

1. A 2. D 3. D 4. D 5. D 6. D

Read the following passage carefully and answer questions:

NET-December 2010

It should be remembered that the nationalist movement in India, like all nationalist movements, was essentially a bourgeois movement. It represented the natural historical stage of development, and to consider it or to criticise it as a working-class movement is wrong. Gandhi represented that movement and the Indian masses in relation to that movement to a supreme degree, and he became the voice of Indian people to that extent. The main contribution of Gandhi to India and the Indian masses has been through the powerful movements which he launched through the National Congress. Through nation-wide action he sought to mould the millions, and largely succeeded in doing so, and changing them from a demoralised, timid and hopeless mass, bullied and crushed by every dominant interest, and incapable of resistance, into a people with self-respect and self-reliance, resisting tyranny, and capable of united action and sacrifice for a larger cause.

Gandhi made people think of political and economic issues and every village and every bazaar hummed with argument and debate on the new ideas and hopes that filled the people. That was an amazing psychological change. The time was ripe for it, of course, and circumstances and world conditions worked for this change. But a great leader is necessary to take advantage of circumstances and conditions. Gandhi was that leader, and he released many of the bonds that imprisoned and disabled our minds, and none of us who experienced it can ever forget that great feeling of release and exhilaration that came over the Indian people.

Gandhi has played a revolutionary role in India of the greatest importance because he knew how to make the most of the objective conditions and could reach the heart of the masses, while groups with a more advanced ideology functioned largely in the air because they did not fit in with those conditions and could therefore not evoke any substantial response from the masses.

It is perfectly true that Gandhi, functioning in the nationalist plane, does not think in terms of the conflict of classes, and tries to compose their differences. But the action he has indulged and taught the people has inevitably raised mass consciousness tremendously and made social issues vital. Gandhi and the Congress must be judged by the policies they pursue and the action they indulge in. But behind this, personality counts and colours those policies and activities. In the case of very exceptional person like Gandhi the question of personality becomes especially important in order to understand and appraise him. To us he has represented the spirit and honour of India, the yearning of her sorrowing millions to be rid of their innumerable burdens, and an insult to him by the British Government or others has been an insult to India and her people.

1. Which one of the following is true of the given passage?
 - (A) The passage is a critique of Gandhi's role in Indian movement for independence.
 - (B) The passage hails the role of Gandhi in India's freedom movement.
 - (C) The author is neutral on Gandhi's role in India's freedom movement.
 - (D) It is an account of Indian National Congress's support to the working-class movement.
2. The change that the Gandhian movement brought among the Indian masses was

1. B 2. D

- (A) Physical
(B) Cultural
(C) Technological
(D) Psychological
3. To consider the nationalist movement or to criticise it as a working-class movement was wrong because it was a
(A) historical movement
(B) voice of the Indian people
(C) bourgeois movement
(D) movement represented by Gandhi
4. Gandhi played a revolutionary role in India because he could
(A) preach morality
(B) reach the heart of Indians
(C) see the conflict of classes
(D) lead the Indian National Congress
5. Groups with advanced ideology functioned in the air as they did not fit in with
(A) objective conditions of masses
(B) the Gandhian ideology
(C) the class consciousness of the people
(D) the differences among masses
6. The author concludes the passage by
(A) criticising the Indian masses
(B) the Gandhian movement
(C) pointing out the importance of the personality of Gandhi
(D) identifying the sorrows of millions of Indians

3. B 4. B 5. A 6. C

Read the following passage carefully and answer questions:

NET-June 2010

The phrase "What is it like?" stands for a fundamental thought process. How does one go about observing and reporting on things and events that occupy segments of earth space? Of all the infinite variety of phenomena on the face of the earth, how does one decide what phenomena to observe? There is no such thing as a complete description of the earth or any part of it, for every microscopic point on the earth's surface differs from every other such point. Experience shows that the things observed are already familiar, because they are like phenomena that occur at home or because they resemble the abstract images and models developed in the human mind.

How are abstract images formed? Humans alone among the animals possess language; their words symbolize not only specific things but also mental images of classes of things. People can remember what they have seen or experienced because they attach a word symbol to them.

During the long record of our efforts to gain more and more knowledge about the face of the earth as the human habitat, there has been a continuing interplay between things and events. The direct observation through the senses is described as a percept; the mental image is described as a concept. Percepts are what some people describe as reality, in contrast to mental images, which are theoretical, implying that they are not real.

The relation of Percept to Concept is not as simple as the definition implies. It is now quite clear that people of different cultures or even individuals in the same culture develop different mental images of reality and what they perceive is a reflection of these preconceptions. The direct observation of things and events on the face of the earth is so clearly a function

of the mental images of the mind of the observer that the whole idea of reality must be reconsidered.

Concepts determine what the observer perceives, yet concepts are derived from the generalizations of previous percepts. What happens is that the educated observer is taught to accept a set of concepts and then sharpens or changes these concepts during a professional career. In any one field of scholarship, professional opinion at one time determines what concepts and procedures are acceptable, and these form a kind of model of scholarly behaviour.

1. The problem raised in the passage reflects on
 - (A) thought process
 - (B) human behaviour
 - (C) cultural perceptions
 - (D) professional opinion
2. According to the passage, human beings have mostly in mind
 - (A) Observation of things
 - (B) Preparation of mental images
 - (C) Expression through language
 - (D) To gain knowledge
3. Concept means
 - (A) A mental image
 - (B) A reality
 - (C) An idea expressed in language form
 - (D) All the above
4. The relation of Percept to Concept is
 - (A) Positive
 - (B) Negative
 - (C) Reflective
 - (D) Absolute
5. In the passage, the earth is taken as
 - (A) The Globe
 - (B) The Human Habitat
 - (C) A Celestial Body
 - (D) A Planet
6. Percept means
 - (A) Direct observation through the senses
 - (B) A conceived idea
 - (C) Ends of a spectrum
 - (D) An abstract image

1. C 2. B 3. C 4. C 5. C 6. B

Read the following passage carefully and answer questions:

NET-December 2009

The decisive shift in British Policy really came about under mass pressure in the autumn and winter of 1945 to 46 - the months which Perderel Moon while editing Wavell's Journal has perceptively described as "The Edge of a Volcano". Very foolishly, the British initially decided to hold public trials of several hundreds of the 20,000 I.N.A. prisoners (as well as dismissing from service and detaining without trial no less than 7,000). They compounded the folly by holding the first trial in the Red Fort, Delhi in November 1945, and putting on the dock together a Hindu, a Muslim and a Sikh (P.K. Sehgal, Shah Nawaz, Gurbaksh Singh Dhillon). Bhulabhai Desai, Tejbahadur Sapru and Nehru appeared for the defence (the latter putting on his barrister's gown after 25 years), and the Muslim League also joined the countrywide

protest. On 20 November, an Intelligence Bureau note admitted that "there has seldom been a matter which has attracted so much Indian public interest and, it is safe to say, sympathy this particular brand of sympathy cuts across communal barriers." A journalist (B. Shiva Rao) visiting the Red Fort prisoners on the same day reported that "There is not the slightest feeling among them of Hindu and Muslim". A majority of the men now awaiting trial in the Red Fort is Muslim. Some of these men are bitter that Mr. Jinnah is keeping alive a controversy about Pakistan. The British became extremely nervous about the I.N.A. spirit spreading to the Indian Army, and in January the Punjab Governor reported that a Lahore reception for released I.N.A. prisoners had been attended by Indian soldiers in uniform.

1. Which heading is more appropriate to assign to the above passage?
 - (A) Wavell's Journal
 - (B) Role of Muslim League
 - (C) I.N.A. Trials
 - (D) Red Fort Prisoners
2. The trial of P.K. Sehgal, Shah Nawaz and Gurbaksh Singh Dhillon symbolises
 - (A) communal harmony
 - (B) threat to all religious persons
 - (C) threat to persons fighting for the freedom
 - (D) British reaction against the natives
3. I.N.A. stands for
 - (A) Indian National Assembly
 - (B) Indian National Association
 - (C) Inter-national Association
 - (D) Indian National Army
4. "There has seldom been a matter which has attracted so much Indian Public Interest and, it is safe to say, sympathy " this particular brand of sympathy cuts across communal barriers.- Who sympathises to whom and against whom?
 - (A) Muslims sympathised with Shah Nawaz against the British
 - (B) Hindus sympathised with P.K. Sehgal against the British
 - (C) Sikhs sympathised with Gurbaksh Singh Dhillon against the British
 - (D) Indians sympathised with the persons who were to be trialled
5. The majority of people waiting for trial outside the Red Fort and criticising Jinnah were the
 - (A) Hindus
 - (B) Muslims
 - (C) Sikhs
 - (D) Hindus and Muslims both
6. The sympathy of Indian soldiers in uniform with the released I.N.A. prisoners at Lahore indicates
 - (A) Feeling of Nationalism and Fraternity
 - (B) Rebellious nature of Indian soldiers
 - (C) Simply to participate in the reception party
 - (D) None of the above

1. C 2. C 3. D 4. D 5. B 6. A

Read the following passage carefully and answer questions:

NET-June 2009

While the British rule in India was detrimental to the economic development of the country, it did help in starting of the process of modernizing Indian society and formed several progressive institutions during that process. One of the most beneficial institutions, which were initiated by the British, was democracy. Nobody can dispute that despite its many shortcomings; democracy was and is far better alternative to the arbitrary rule of the rajas and nawabs, which prevailed in India in the pre-British days.

However, one of the harmful traditions of British democracy inherited by India was that of conflict instead of cooperation between elected members. This was its essential feature. The party, which got the support of the majority of elected members, formed the Government while the others constituted a standing opposition. The existence of the opposition to those in power was and is regarded as a hallmark of democracy.

In principle, democracy consists of rule by the people; but where direct rule is not possible, it's rule by persons elected by the people. It is natural that there would be some differences of opinion among the elected members as in the rest of the society.

Normally, members of any organizations have differences of opinion between themselves on different issues but they manage to work on the basis of a consensus and they do not normally form a division between some who are in majority and are placed in power, while treating the others as in opposition.

The members of an organization usually work on consensus. Consensus simply means that after an adequate discussion, members agree that the majority opinion may prevail for the time being. Thus persons who form a majority on one issue and whose opinion is allowed to prevail may not be on the same side if there is a difference on some other issue.

It was largely by accident that instead of this normal procedure, a two party system came to prevail in Britain and that is now being generally taken as the best method of democratic rule.

Many democratically inclined persons in India regret that such a two party system was not brought about in the country. It appears that to have two parties in India – of more or less equal strength - is a virtual impossibility. Those who regret the absence of a two-party system should take the reasons into consideration.

When the two party system got established in Britain, there were two groups among the rulers (consisting of a limited electorate) who had the same economic interests among themselves and who therefore formed two groups within the selected members of Parliament.

There were members of the British aristocracy (which landed interests and consisting of lord, barons etc) and members of the new commercial class consisting of merchants and artisans. These groups were more or less of equal strength and they were able to establish their separate rule at different times.

1. In pre-British period, when India was ruled by the independent rulers:
- | | |
|---|---|
| (A) Peace and prosperity prevailed in the society | (C) Public opinion was inevitable for policy making |
| (B) People were isolated from political affairs | (D) Law was equal for one and all |

1. B

2. What is the distinguishing feature of the democracy practiced in Britain?
 - (A) End to the rule of might is right.
 - (B) Rule of the people, by the people and for the people.
 - (C) It has stood the test of time.
 - (D) Cooperation between elected members.
3. Democracy is practiced where:
 - (A) Elected members form a uniform opinion regarding policy matter.
 - (B) Opposition is more powerful than the ruling combine.
 - (C) Representatives of masses.
 - (D) None of these.
4. Which of the following is true about the British rule in India?
 - (A) It was behind the modernization of the Indian society.
 - (B) India gained economically during that period.
 - (C) Various establishments were formed for the purpose of progress.
 - (D) None of these.
5. Who became the members of the new commercial class during that time?
 - (A) British Aristocrats
 - (B) Lord and barons
 - (C) Political Persons
 - (D) Merchants and artisans

2. B 3. B 4. A 5. D

Read the following passage carefully and answer questions:

NET-December 2008

Radically changing monsoon patterns, reduction in the winter rice harvest and a quantum increase in respiratory diseases all part of the environmental doomsday scenario which is reportedly playing out in South Asia. According to a United Nations Environment Programme report, a deadly three-kilometer deep blanket of pollution comprising a fearsome, cocktail of ash, acids, aerosols and other particles has enveloped in this region. For India, already struggling to cope with a drought, the implication of this are devastating and further crop failure will amount to a life and death question for many Indians. The increase in premature deaths will have adverse social and economic consequences and a rise in morbidities will place an unbearable burden on our crumbling health system. And there is no one to blame but ourselves. Both official and corporate India has always been allergic to any mention of clean technology. Most mechanical two wheelers roll off the assembly line without proper pollution control system. Little effort is made for R&D on simple technologies, which could make a vital difference to people's lives and the environment.

However, while there is no denying that South Asia must clean up its act, skeptics might question the timing of the haze report. The Kyoto meet on climate change is just two weeks away and the stage is set for the usual battle between the developing world and the West, particularly the United States of America. President Mr. Bush has adamantly refused to sign any protocol, which would mean a change in American consumption level. U.N. environment report will likely find a place in the U.S. arsenal as it plants an accusing finger towards countries like India and China. Yet the U.S.A. can hardly deny its own dubious role in the matter of erasing trading quotas.

Richer countries can simply buy up excess credits from poorer countries and continue to pollute. Rather than try to get the better of developing countries, who undoubtedly have

taken up environmental shortcuts in their bid to catch up with the West, the USA should take a look at the environmental profigacy, which is going on within. From opening up virgin territories for oil exploration to relaxing the standards for drinking water, Mr. Bush's policies are not exactly beneficial, not even to America's interests. We realize that we are all in this together and that pollution anywhere should be a global concern otherwise there will only be more tunnels at the end of the tunnel.

1. Both official and corporate India is allergic to:
 - (A) Failure of Monsoon
 - (B) Poverty and Inequality
 - (C) Slowdown in Industrial Production
 - (D) Mention of Clean Technology
2. If the rate of premature death increases it will:
 - (A) Exert added burden on the crumbling economy
 - (B) Have adverse social and economic consequences
 - (C) Make positive effect on our effort to control population
 - (D) Have less job aspirants in the society
3. According to the passage, the two wheeler industry is not adequately concerned about:
 - (A) Passenger safety on the roads
 - (B) Life cover insurance of the vehicle owner
 - (C) Pollution control system in the vehicle
 - (D) Rising cost of the two wheelers
4. What could be the reason behind timing of the haze report just before the Kyoto meet?
 - (A) United Nations is working hand-in-glove with U.S.A.
 - (B) Organizers of the forthcoming meet to teach a lesson to the U.S.A.
 - (C) Drawing attention of the world towards devastating effects of environment degradation.
 - (D) U.S.A. wants to use it as a handle against the developing countries in the forthcoming meet
5. Which of the following is the indication of environmental degradation in South Asia?
 - (A) Social and economic inequality
 - (B) Crumbling health care system
 - (C) Inadequate pollution control system
 - (D) Radically changing monsoon pattern

1. D 2. C 3. B 4. D 5. D

Read the following passage carefully and answer questions:

NET-June 2008

The fundamental principle is that Article 14 forbids class legislation but permits reasonable classification for the purpose of legislation which classification must satisfy the twin tests of classification being founded on an intelligible differentia which distinguishes persons or things that are grouped together from those that are left out of the group and that differentia must have a rational nexus to the object sought to be achieved by the Statute in question. The

thrust of Article 14 is that the citizen is entitled to equality before law and equal protection of laws. In the very nature of things the society being composed of unequals a welfare State will have to strive by both executive and legislative action to help the less fortunate in society to ameliorate their condition so that the social and economic inequality in the society may be bridged. This would necessitate a legislative application to a group of citizens otherwise unequal and amelioration of whose lot is the object of state affirmative action. In the absence of the doctrine of classification such legislation is likely to flounder on the bed rock of equality enshrined in Article 14. The Court realistically appraising the social and economic inequality and keeping in view the guidelines on which the State action must move as constitutionally laid down in Part IV of the Constitution evolved the doctrine of classification. The doctrine was evolved to sustain a legislation or State action designed to help weaker sections of the society or some such segments of the society in need of succour. Legislative and executive action may accordingly be sustained if it satisfies the twin tests of reasonable classification and the rational principle correlated to the object sought to be achieved.

The concept of equality before the law does not involve the idea of absolute equality among human beings which is a physical impossibility. All that Article 14 guarantees is a similarity of treatment contra-distinguished from identical treatment. Equality before law means that among equals the law should be equal and should be equally administered and that the likes should be treated alike. Equality before the law does not mean that things which are different shall be as though they are the same. It of course means denial of any special privilege by reason of birth, creed or the like. The legislation as well as the executive government, while dealing with diverse problems arising out of an infinite variety of human relations must of necessity have the power of making special laws, to attain any particular object and to achieve that object it must have the power of selection or classification of persons and things upon which such laws are to operate.

1. Right to equality, one of the fundamental rights, is enunciated in the constitution under Part III, Article:
 - (A) 12
 - (B) 13
 - (C) 14
 - (D) 15
2. The main thrust of Right to equality is that it permits:
 - (A) class legislation
 - (B) equality before law and equal protection under the law
 - (C) absolute equality
 - (D) special privilege by reason of birth
3. The social and economic inequality in the society can be bridged by:
 - (A) executive and legislative action
 - (B) universal suffrage
 - (C) identical treatment
 - (D) none of the above
4. The doctrine of classification is evolved to:
 - (A) Help weaker sections of the society
 - (B) Provide absolute equality
 - (C) Provide identical treatment
 - (D) None of the above
5. While dealing with diverse problems arising out of an infinite variety of human relations, the government
 - (A) must have the power of making special laws

1. C 2. B 3. A 4. A 5. A

- (B) must not have any power to make special laws
- (C) must have power to withdraw equal rights
- (D) none of the above

Read the following passage carefully and answer questions:

NET-December 2007

Gandhi's overall social and environmental philosophy is based on what human beings need rather than what they want. His early introduction to the teachings of Jains, Theosophists, Christian sermons, Ruskin and Tolstoy, and most significantly the Bhagavad Gita, were to have profound impact on the development of Gandhi's holistic thinking on humanity, nature and their ecological interrelation. His deep concern for the disadvantaged, the poor and rural population created an ambience for an alternative social thinking that was at once far-sighted, local and immediate. For Gandhi was acutely aware that the demands generated by the need to feed and sustain human life, compounded by the growing industrialization of India, far outstripped the finite resources of nature. This might nowadays appear naive or commonplace, but such pronouncements were as rare as they were heretical a century ago. Gandhi was also concerned about the destruction, under colonial and modernist designs, of the existing infrastructures which had more potential for keeping a community flourishing within ecologically-sensitive traditional patterns of subsistence, especially in the rural areas, than did the incoming Western alternatives based on nature-blind technology and the enslavement of human spirit and energies.

Perhaps the moral principle for which Gandhi is best known is that of active non-violence, derived from the traditional moral restraint of not injuring another being. The most refined expression of this value is in the great epic of the Mahabharata, (c. 100 BCE to 200 CE), where moral development proceeds through placing constraints on the liberties, desires and acquisitiveness endemic to human life. One's action is judged in terms of consequences and the impact it is likely to have on another. Jainas had generalized this principle to include all sentient creatures and biocommunities alike. Advanced Jaina monks and nuns will sweep their path to avoid harming insects and even bacteria. Non-injury is a non-negotiable universal prescription.

- Which one of the following have a profound impact on the development of Gandhi's holistic thinking on humanity, nature and their ecological interrelations?
 - Jain teachings
 - Christian sermons
 - Bhagavad Gita
 - Ruskin and Tolstoy
- Gandhi's overall social and environmental philosophy is based on human beings':
 - need
 - desire
 - wealth
 - welfare
- Gandhi's deep concern for the disadvantaged, the poor and rural population created an ambience for an alternative:
 - rural policy
 - social thinking
 - urban policy
 - economic thinking

1. C 2. A 3. B

4. Colonial policy and modernisation led to the destruction of:
- (A) major industrial infrastructure
 - (B) irrigation infrastructure
 - (C) urban infrastructure
 - (D) rural infrastructure
5. Gandhi's active non-violence is derived from:
- (A) Moral restraint of not injuring another being
 - (B) Having liberties, desires and acquisitiveness
 - (C) Freedom of action
 - (D) Nature-blind technology and enslavement of human spirit and energies
4. D 5. A

Read the following passage carefully and answer questions:

NET-June 2007

All political systems need to mediate the relationship between private wealth and public power. Those that fail risk a dysfunctional government captured by wealthy interests. Corruption is one symptom of such failure with private willingness-to-pay trumping public goals. Private individuals and business firms pay to get routine services and to get to the head of the bureaucratic queue. They pay to limit their taxes, avoid costly regulations, obtain contracts at inflated prices and get concessions and privatised firms at low prices. If corruption is endemic, public officials - both bureaucrats and elected officials - may redesign programmes and propose public projects with few public benefits and many opportunities for private profit. Of course, corruption, in the sense of bribes, pay-offs and kickbacks, is only one type of government failure. Efforts to promote 'good governance' must be broader than anti-corruption campaigns. Governments may be honest but inefficient because no one has an incentive to work productively, and narrow elites may capture the state and exert excess influence on policy. Bribery may induce the lazy to work hard and permit those not in the inner circle of cronies to obtain benefits. However, even in such cases, corruption cannot be confined to 'functional' areas. It will be a temptation whenever private benefits are positive. It may be a reasonable response to a harsh reality but, over time, it can facilitate a spiral into an even worse situation.

1. The governments which fail to focus on the relationship between private wealth and public power are likely to become:
 - (A) Functional
 - (B) Dysfunctional
 - (C) Normal functioning
 - (D) Good governance
2. One important symptom of bad governance is:
 - (A) Corruption
 - (B) High taxes
 - (C) Complicated rules and regulations
 - (D) High prices
3. When corruption is rampant, public officials always aim at many opportunities for:
 - (A) Public benefits
 - (B) Public profit
 - (C) Private profit
 - (D) Corporate gains
4. Productivity linked incentives to public/private officials is one of the indicators for:

1. B 2. A 3. C 4. A

- (A) Efficient government
 (B) Bad governance
 (C) Inefficient government
 (D) Corruption
5. The spiralling corruption can only be con-
 tained by promoting:
 (A) Private profit
 (B) Anti-corruption campaign
 (C) Good governance
 (D) Pay-offs and kick backs
5. A

Read the following passage carefully and answer questions:

NET-December 2006

After almost three decades of contemplating Swarovski-encrusted navels on increasing flat abs, the Mumbai film industry is on a discovery of India and itself. With budgets of over 30 crore each, four soon to be released movies by premier directors are exploring the idea of who we are and redefining who the other is. It is a fundamental question which the bling-bling, glam-sham and disham-disham tends to avoid. It is also a question which binds an audience when the lights go dim and the projector rolls: as a nation, who are we? As a people, where are we going?

The Germans coined a word for it, zeitgeist, which perhaps Yash Chopra would not care to pronounce. But at 72, he remains the person who can best capture it. After being the first to project the diasporic Indian on screen in Lamhe in 1991, he has returned to his roots in a new movie. Veer Zaara, set in 1986, where Pakistan, the traditional other, the part that got away, is the lover and the saviour. In Subhas Ghai's Kisna, set in 1947, the other is the English woman. She is not a memsahib, but a mehbooba. In Ketan Mehta's The Rising, the East India Englishman is not the evil oppressor of countless cardboard characterisations, which span the spectrum from Jewel in the Crown to Kranti, but an honourable friend.

This is Manoj Kumar's Desh Ki dharti with a difference: there is culture, not contentious politics; balle balle, not bombs: no dooriyan (distance), only nazdeekiyan (closeness). All four films are heralding a new hero and heroine. The new hero is fallible and vulnerable, committed to his dharma, but also not afraid of failure - less of a boy and more of a man. He even has a grown up name: Veer Pratap Singh in Veer-Zaara and Mohan Bhargav in Swades. The new heroine is not a babe, but often a bebe, dressed in traditional Punjabi clothes, often with the stereotypical body type as well, as in Bride and Prejudice of Gurinder Chadha.

1. Which word Yash Chopra would not be able to pronounce?
 (A) Bling + bling
 (B) Zeitgeist
 (C) Montaz
 (D) Dooriyan
2. Who made Lamhe in 1991?
 (A) Subhash Ghai
 (B) Yash Chopra
 (C) Aditya Chopra
 (D) Sakti Samanta
3. Which movie is associated with Manoj Kumar?
 (A) Jewel in the Crown
 (B) Kisna
 (C) Zaara
 (D) Desh Ki dharti
4. Which is the latest film by Yash Chopra?

1. B 2. B 3. D 4. D

- (A) Deewar
 (B) Kabhi Kabhi
 (C) Dilwale Dulhania Le Jayenge
 (D) Veer Zaara
5. Which is the dress of the heroine in Veer-
 Zaara?
 (A) Traditional Gujarati Clothes
 (B) Traditional Bengali Clothes
 (C) Traditional Punjabi Clothes
 (D) Traditional Madras Clothes

5. C

Read the following passage carefully and answer questions:

NET-June 2006

The superintendence, direction and control of preparation of electoral rolls for, and the conduct of, elections to Parliament and State Legislatures and elections to the offices of the President and the Vice - President of India are vested in the Election Commission of India. It is an independent constitutional authority.

Independence of the Election Commission and its insulation from executive interference is ensured by a specific provision under Article 324 (5) of the constitution that the chief Election Commissioner shall not be removed from his office except in like manner and on like grounds as a Judge of the Supreme Court and conditions of his service shall not be varied to his disadvantage after his appointment.

In C.W.P. No. 4912 of 1998 (Kushra Bharat Vs. Union of India and others), the Delhi High Court directed that information relating to Government dues owed by the candidates to the departments dealing with Government accommodation, electricity, water, telephone and transport etc. and any other dues should be furnished by the candidates and this information should be published by the election authorities under the commission.

1. The text of the passage reflects or raises certain questions:
 (A) The authority of the commission cannot be challenged.
 (B) This would help in stopping the criminalization of Indian politics.
 (C) This would reduce substantially the number of contesting candidates.
 (D) This would ensure fair and free elections.
2. According to the passage, the Election Commission is an independent constitutional authority. This is under Article No.
 (A) 324
 (B) 356
 (C) 246
 (D) 161
3. Independence of the Commission means:
 (A) have a constitutional status.
 (B) have legislative powers.
 (C) have judicial powers.
 (D) have political powers.
4. Fair and free election means:
 (A) transparency
 (B) to maintain law and order
 (C) regional considerations
 (D) role for pressure groups

1. D 2. A 3. A 4. B

Read the following passage carefully and answer questions:

NET-December 2005

Knowledge creation in many cases requires creativity and idea generation. This is especially important in generating alternative decision support solutions. Some people believe that an individual's creative ability stems primarily from personality traits such as inventiveness, independence, individuality, enthusiasm, and flexibility. However, several studies have found that creativity is not so much a function of individual traits as was once believed, and that individual creativity can be learned and improved. This understanding has led innovative companies to recognise that the key to fostering creativity may be the development of an idea-nurturing work environment. Idea-generation methods and techniques, to be used by individuals or in groups, are consequently being developed. Manual methods for supporting idea generation, such as brainstorming in a group, can be very successful in certain situations. However, in other situations, such an approach is either not economically feasible or not possible. For example, manual methods in group creativity sessions will not work or will not be effective when (1) there is no time to conduct a proper idea-generation session; (2) there is a poor facilitator (or no facilitator at all); (3) it is too expensive to conduct an idea-generation session; (4) the subject matter is too sensitive for a face-to-face session; or (5) there are not enough participants, the mix of participants is not optimal, or there is no climate for idea generation. In such cases, computerised idea-generation methods have been tried, with frequent success.

Idea-generation software is designed to help stimulate a single user or a group to produce new ideas, options and choices. The user does all the work, but the software encourages and pushes, something like a personal trainer. Although idea-generation software is still relatively new, there are several packages on the market. Various approaches are used by idea-generating software to increase the flow of ideas to the user. Idea Fisher, for example, has an associate lexicon of the English language that cross-references words and phrases. These associative links, based on analogies and metaphors, make it easy for the user to be fed words related to a given theme. Some software packages use questions to prompt the user towards new, unexplored patterns of thought. This helps users to break out of cyclical thinking patterns, conquer mental blocks, or deal with bouts of procrastination.

1. The author, in this passage has focused on
 - (A) knowledge creation
 - (B) idea-generation
 - (C) creativity
 - (D) individual traits
2. Fostering creativity needs an environment of
 - (A) decision support systems
 - (B) idea-nurturing
 - (C) decision support solutions
 - (D) alternative individual factors
3. Manual methods for the support of idea-generation, in certain occasions,
 - (A) are alternatively effective
 - (B) can be less expensive
 - (C) do not need a facilitator
 - (D) require a mix of optimal participants
4. Idea-generation software works as if it is a
 - (A) stimulant
 - (B) knowledge package

1. A 2. B 3. A 4. A

- (C) user-friendly trainer
(D) climate creator
5. Mental blocks, bouts of procrastination and cyclical thinking patterns can be won when:
(A) innovative companies employ electronic thinking methods
(B) idea-generation software prompts questions
(C) manual methods are removed
(D) individuals acquire a neutral attitude towards the software
5. B

Read the following passage carefully and answer questions:

NET-December 2004

Each day at the Shantiniketan School starts with the Saraswati Vandana. When painting competitions are held in the school, images of Hindu gods and goddesses are most common. Sanskrit is a favourite subject of many a student. Nothing new about it except that the 1,200 - odd students studying in the Hindu - run school are Muslims.

In 1983, when Ranchodbhai Kiri started Shantiniketan in the all - Muslim Juhapura area of Ahmedabad in Gujarat, only 20 percent of the students were Muslims. But when riots involving the Muslims of Juhapura and the Hindus of nearby Jivrajpark - Vejalpur affected the locality, Hindus started migrating. Today, all the students are Muslims and the school is an unparalleled example of harmony. In the 2002, when a section of inflamed Muslims wanted the school closed, the parents of the students stood like a wall behind it.

Shantiniketan's principal says, "We never thought of moving the school out of the area because of the love and affection of the local Muslims. Indeed, they value the high standard of education which we have set." Such is the reputation of the school that some of the local Muslim strongmen accused of involvement in communal riots are willing to protect the school during the riots.

The parents of Shantiniketan's students believe that it's the best school when it comes to the quality of the teaching. A large number of students have gone for both graduation and post graduation studies. Significantly, the only Muslim teacher in the 40 - member teaching staff, Husena Mansuri, teaches Sanskrit. In fact, she is so happy at the school that she recently declined the principalship of another Muslim - run school.

Some of the students' entries in a recent school painting competition were truly moving. One drew a picture of Bharat Mata with a mosque and temple, while another portrayed a boy tying rakhi to his sister. Truly, Shantiniketan is a beacon of hope that, despite the provocations from both communities, Hindus and Muslims can live side-by-side with mutual respect.

1. How the Shantiniketan school starts the day?
(A) National anthem
(B) Prayer
(C) Saraswati Vandana
(D) Puja
2. Write the subject which is preferred by most of the students.
(A) Hindi
(B) English
(C) Sanskrit
(D) Gujarati
3. Who protects the school during the riot times?

- (A) Local Muslims
(B) Hindus
(C) Politicians
(D) Christians
4. Who is the teacher of Sanskrit?
(A) Ranchodbhai Kiri
(B) Manisha Vakil
(C) Husena Mansuri
(D) Husena Khatoon
5. What is the hope despite the communal riots ?
(A) Hindus and Muslims cannot live side by side
(B) Hindus and Muslims can live side by side
(C) Only Hindus can live
(D) Only Muslims can live
4. C 5. B

Read the following passage carefully and answer questions:

Important

The classical realist theory of international relations has long dominated both academic institutions and the American government. Even at the birth of the nation, early political thinkers, such as Alexander Hamilton, promoted a realist view of international relations and sought to influence the actions of the government based on this perspective. While the classical realist school of international relations is not entirely homogeneous in nature, there are certain premises that all classical realists share. The primary principle underlying classical realism is a concern with issues of war and peace. Specifically, classical realists ask, what are the causes of war and what are the conditions of peace? The members of the classical realist school mainly attribute war and conflict to what is termed the security dilemma. In the absence of any prevailing global authority, each nation is required to address its own security needs. However, each nation's quest for security—through military buildups, alliances, or territorial defenses—necessarily unsettles other nations. These nations react to feelings of insecurity by engaging in their own aggressive actions, which leads other nations to react similarly, perpetuating the cycle. It is important to note that for realists, unlike idealists or liberal internationalists, international conflict is a necessary consequence of the structural anarchy that nations find themselves in. Whereas other schools may see international conflict as the result of evil dictators, historical chance, flawed sociopolitical systems, or ignorance of world affairs, classical realists see war as the logical result of a system that by its nature lacks a true central authority. Hand in hand with this view of conflict as an inevitable condition of the global power structure is the realists' view of the nation as a unitary actor. Because classical realists see international relations as a continuing struggle for dominance, the nation can not be viewed as a collection of individuals with disparate wants, goals, and ideologies. The realist view requires the formulation of a national interest, which in its simplest terms refers to the nation's ability to survive, maintain its security, and achieve some level of power relative to its competitors. Realism is not without its critics, many of whom challenge the premise that war is the natural condition of international relations or that there can be a truly national interest. However, the realist school of international relations continues to shape foreign policy because of the successes it has had in describing real world interactions between nations.

1. The formation of a national interest serves what function in the classical realist theory of war and peace, based on the passage?
 - (A) It is a convenience used by theorists to describe national interests where none exist.
 - (B) It provides the necessary justification for the classical realist view of a continuous global power struggle.
 - (C) It is less important to the theory than is the idea of the nation as a unitary actor.
 - (D) It is the part of the theory that receives the most criticism from opponents.
2. From the passage, members of the classical realist school would be LEAST likely to support which of the following argument?
 - (A) an international policy based on building a strong military force to deter threats
 - (B) an international policy that seeks to reduce threats of war by providing humanitarian aid to potential aggressor countries
 - (C) a domestic policy that attempts to unify the nation's citizens behind a common cause
 - (D) a domestic policy that allocates a majority of the country's budget for defense spending
3. Depending on the description provided in the passage, which of the following, if true, would best support the classical realist theory of international conflict?
 - (A) Some countries ruled by dictators maintain peaceful relations with their neighbors.
 - (B) Despite the presence of a world superpower, many countries continue to fight wars with their neighbors.
 - (C) War has existed from the beginning of recorded history.
 - (D) After the nations of the world form an authoritative world court, wars decrease dramatically
4. The author most likely regards the classical realist theory of international relations with
 - (A) General lack of interest
 - (B) Unconvinced dismissal
 - (C) Indirect disapproval
 - (D) Experienced acceptance
5. According to the passage, what is the underlying principle of classic realism?
 - (A) International Economic Conflicts
 - (B) Removal of dictatorship from world
 - (C) Issues of War and Peace
 - (D) Humanitarian aid to economically depressed nations

1. B 2. B 3. D 4. D 5. C

Read the following passage carefully and answer questions:

Important

What is immediately needed today is the establishment of a World Government or an International Federation of mankind. It is the utmost necessity of the world today, and all those persons who wish to see all human beings happy and prosperous naturally feel it keenly. Of course, at times we feel that many of the problem of our political, social, linguistic and cultural life would come to an end if there were one Government all over the world. Travellers, businessmen, seekers of knowledge and teachers of righteousness know very well that great

impediments and obstructions are faced by them when they pass from one country to another, exchange goods, get information, and make an efforts to spread their good gospel among their fellow-men. In the past, religious sects divided one set of people against another, colour of skin or shape of the body set one against the other.

But today when philosophical light has exploded the darkness that was created by religious differences, and when scientific knowledge has flasified the superstitions, they have enabled human beings of all religious views and of all races and colours to come in frequent contact with one another . Itis the governments of various countries that keep poeple of one country apart from, those of another. They create artificial barriers, unnatural distinctions, unhealthy isolation, unnecessary fears and dangers in the minds of common men who by their nature want to live in friendship with their fellow-men. But all these evils would cease to exist if there were one Government all over the world.

1. What divides people of a country against another?
 - (A) Different religions
 - (B) Different language
 - (C) Different social and political systems of different people
 - (D) Government of various countries
2. What is the urgent heed of the world today?
 - (A) The establishment of an international economic order.
 - (B) The establishment of a world government.
 - (C) The creation of a cultural international social order.
 - (D) The raising of an international spiritual army.
3. What will the world Government be expected to do?
 - (A) it will arrange for interplanetary contacts
 - (B) it will end all wars for all time to come
 - (C) it will bring about a moral regeneration of mankind
 - (D) it will kill the evil spirit in man
4. Choose the word which is SIMILAR in meaning as the word "righteousness" as used in the passage.
 - (A) rectitude
 - (B) religiosity
 - (C) requirement
 - (D) scrupulousness
5. Which of the following problems has not been mentioned in the passage as likely to be solved with the establishment of world Government?
 - (A) Social Problems
 - (B) Political Problems
 - (C) Cultural Problems
 - (D) Economic Problems
6. Choose the word which is most OPPOSITE in meaning of the word 'impediments' as used in the passage.
 - (A) handicaps
 - (B) furtherance
 - (C) providence
 - (D) hindrances
7. The most appropriate title of the above passage may be
 - (A) The evils of the world order.
 - (B) The man can make his destiny.
 - (C) The need of world Government.

1. D 2. D 3. C 4. A 5. D 6. B 7. C

- (D) The role of Religion in the Modern Times.
8. What was the factor, according to the passage, that set one man against another?
- (A) Material prosperity of certain people in the midst of grinding poverty.
- (B) Superior physical strength of some persons.
- (C) Colour of skin or shape of the body.
- (D) Some people being educated and other illiterate.
9. The theory of racial superiority stands falsified today by
- (A) knowledge derived from scientific advances.
- (B) the ascendancy of people who were here to fore considered of inferior racial stock.
- (C) the achievements of the so called backward countries in every field of life.
- (D) the precedence given to the physical powers of different races.
10. In the part religious sects
- (A) united the people with one another.
- (B) Interfered in political affairs.
- (C) did a good job by way of spreading message of love and peace.
- (D) divided one set of people from another

8. C 9. A 10. D

Read the following passage carefully and answer questions:

Important

The window offered a view of the house opposite. The two families did not speak to each other because of a property dispute. One day, Ruchira's textbooks lay untouched as the young girl's gaze was on the happenings in the house opposite. There were two new faces in the neighbouring household – that of an elderly widow and a girls aged sixteen. Some times the elderly lady would sit by the window, doing the young girl's hair. On other days she was absent.

The new young neighbour's daily routine could be seen through the window – she cleaned the rice paddy; split nuts, put the cushions in the sun to air them. In the afternoons while the men were all at world some of the women slept and others played cards. The girl sat on the terrace and read. Sometimes she wrote. One day there was hindrance. She was writing when the elderly woman snatched the unfinished letter from her hands. Thereafter the girl was not to be seen on the terrace. Sometimes during the day sounds came from the house indicating that a massive argument was going on inside.

A few days passed. One evening Ruchira noticed the girl standing on the terrace in tears. The evening prayer was in progress. As she did daily, the girl bowed several times in prayer. Then she went downstairs. That night Ruchira wrote a letter. She went out and posted it that very instant. But as she lay in bed that night, she prayed fervently that her offer of friendship wouldn't reach its destination. Ruchira then left for Madhupur and returned when it was time for college to start. She found the house opposite in darkness, locked. They had left.

When she stepped into her room she found the desk piled with letters – one had a local stamp on it with her name and address in unfamiliar handwriting. She quickly read it. They continued to write to each other for the next twenty years.

1. Why did Ruchira write a letter to her new neighbour?
 - (A) She wanted to offer her, her help.
 - (B) She wanted to be friends with her.
 - (C) To apologize for her family's behaviour towards her family.
 - (D) To encourage her to continue learning to read and write.
2. Which of the following can be said about Ruchira?
 - I) She used to spy on her neighbours because she didn't trust them.
 - II) She was at home because she was studying.
 - III) She did not speak to her neighbours because they did not own property.
 - (A) None
 - (B) Only II
 - (C) Both I & II
 - (D) Only III
3. How did the new young neighbour spend her days?
 - (A) She was busy writing letters to Ruchira.
 - (B) She used to daydream about her past experiences.
 - (C) She would attend to the needs of the widow.
 - (D) She spent her time learning to read and write.
4. Why was the young neighbour prevented from sitting on the terrace?
 - (A) She used to while away her time instead of working
 - (B) The old woman could no longer keep an eye on her.
 - (C) She had not finished writing the letter she was asked to.
 - (D) She had been writing a letter which she wasn't supposed to.
5. What was the major argument in the house about?
 - (A) There were too many people living there, which resulted in arguments.
 - (B) The young girl was insisting on attending college.
 - (C) The young girl had been wasting her time instead of working.
 - (D) The old woman did not guard the young girl closely.
6. Which of the following is TRUE in the context of the passage?
 - (A) The young girl was very devout and prayed everyday.
 - (B) Only two letters were exchanged between the two girls.
 - (C) The new young neighbour was a servant.
 - (D) The afternoon was a time to relax for everyone.
7. Why did the young girl wish that the letter would not reach its destination?
 - I) She was going away and would not be able to see if her neighbour was glad to receive it.
 - II) She was afraid that it would lead to a quarrel between the two families.
 - III) She was afraid that her neighbour would be angry when she received her letter.
 - (A) None
 - (B) Only I
 - (C) Only III
 - (D) Both II & III

1. B 2. B 3. D 4. D 5. C 6. A 7. B

Read the following passage carefully and answer questions:

Important

The yearly festival was close at hand. The store room was packed with silk fabrics, gold ornaments, clay bowls full of sweet curd and platefuls of sweetmeats. The orders had been placed with shops well in advance. The mother was sending out gifts to everyone.

The eldest son, a government servant, lived with his wife and children in far off lands. The second son had left home at an early age. As a merchant he travelled all over the world. The other sons had split up over petty squabbles, and they now lived in homes of their own. The relatives were spread all across the world. They rarely visited. The youngest son, left in the company of a servant, was soon bored left her and stood at the door all day long, waiting and watching. His mother, thrilled and excited, loaded the presents on trays and plates, covered them with colourful kerchiefs, and sent them off with maids and servants. The neighbours looked on.

The day came to an end. All the presents had been sent off.

The child came back into the house and dejectedly said to his mother, "Maa, you gave present to everyone, but you didn't give me anything!"

His mother laughed, "I have given all the gifts away to everyone, now see what's left for you." She kissed him on the forehead

The child said in a tearful voice, "Don't I get a gift?"

"You'll get it when you go far away."

"But when I am close to you, don't I get something from your own hands?"

His mother reached out her arms and drew him to her "This is all I have in my own hands. It is the most precious of all."

1. Why did the woman's second son travel?
 - (A) He was restless by nature.
 - (B) He did not want to stay at home.
 - (C) He was rich and could afford to travel.
 - (D) His job prevented him from taking leave
2. Why did the woman's eldest son not attend the festival?
 - (A) He was not on good terms with his youngest brother who lived at home.
 - (B) He had quarrelled with his mother.
 - (C) His wife did not allow him to return home.
 - (D) His job prevented him from taking leave
3. How did the woman prepare for the festival?
 - I) She bought expensive gifts for her children and neighbours.
 - II) She ordered her servants to prepare sweets and food well in advance.
 - III) She made sure that her youngest child was looked after so that he wouldn't be bored.
4. What did the youngest child do while his mother was busy?
 - (A) None
 - (B) Only I
 - (C) Only II
 - (D) Both I & II

1. D 2. D 3. A 4. A

- III) He stood at the door with the servants.
- (A) Only I
(B) Only II
(C) Both I & III
(D) Only III
5. Which of the following can be said about the woman?
- (A) She was a widow who had brought up her children single handedly.
(B) She was not a good mother since her children had left home at an early age.
(C) She enjoyed sending her family gifts at festival time.
(D) She gave expensive presents to show that she was wealthy.
6. What did the boy receive from his mother?
- (A) She taught him the value of patience
(B) She encouraged him to grow up and live independently like his brother.
(C) She showed him the importance of giving expensive gifts.
(D) She gave him a hug to express her love.
7. Which of the following is TRUE in the context of the passage?
- (A) The woman usually ignored her youngest son
(B) The woman's eldest son lived abroad.
(C) The members of the woman's family did not care about her.
(D) The woman made all the preparations herself since she did not want to burden the servants.

5. C 6. D 7. A

Read the following passage carefully and answer questions:

Important

Ghanshyam Das Birla was a great architect of India's industrial growth. He started his career in Kolkata at the beginning of 20th century. He set up many industries. He entered the field of business during the days of the First World War and established himself after the war years. First, he established a cotton mill in Sabzi Mandi, Delhi, followed by Keshoram Cotton Mills and Birla Jute Mills around 1920. The Keshoram Mills were set up with the efforts of Andrew Yule. In 1919, with an investment of Rs 50 lakhs, Birla Brothers Limited was formed and thereafter a mill was set up in Gwalior.

Mr. Birla realised that political freedom from British rule was imperative for the industrial growth of India. In 1920, he came into contact with Gandhiji and became his disciple. In the decade of the 30's he set up sugar paper mills. From 1943 to 1946, with the stock exchange gaining ground, Birla Brothers ventured into the areas of cars, cotton, machinery and man-made fabrics. United Commercial Bank was set up during this period. Prior to this, he had established Ruby, Asiatic Insurance Co. and Inland Air Service.

After independence, the Birlas expanded their business and started production in many fields. Near Mirzapur, he, in collaboration with Caesar, an American friend, set up an aluminium plant Hindalco in record time. He bought the Century Mill from Sir Chunnilal V.Mehta, the cousin of Sir Purshottam Das Thakur. He also bought tea estates and started cement and fertiliser factories. He established a new style of management. In his birth place Pilani, and at many other places he started many educational institutions. To his credit go many temples, planetariums and hospitals. In 1983, he died while in London, but not before seeing

his business flourish as one of the topmost establishments in India. During the decades of 70's and 80's, Birla Brothers was among the topmost Industrial Houses in India.

Anna Saheb Karve's life was as simple and clean as that of an ancient ascetic (Rishi Muni). He was liberal in his views and sympathetic in his attitude. He was deeply moved by the troubles and tribulations of women folk. What Anna Saheb did for the upliftment of women in the last decade of the nineteenth century was beyond the imagination of the people. He created an awakening among women through his writing in Kesari. He was a staunch supporter of widow remarriage. On March 11, 1893, he set an example for society by taking the bold step of marrying a widow. The couple dedicated their lives to social work and reform. He established an orphanage in Pune.

Anna Saheb realised the importance of education for women. He spared no effort in starting the Bharatiya Mahila Vidyapeeth, the first university for women. In 1921, he travelled to Europe and America and met famous people like Albert Einstein and formulated his opinions regarding work. In 1958, he was awarded the 'Bharat Ratna' in recognition of his services in educational and social reforms.

1. Ghanshyam Das Birla was better known to India as
 - (A) a freedom fighter against British rule
 - (B) an architect of temples in various cities
 - (C) a pioneer of India's industrial growth
 - (D) an architect of the textile industry in India
2. Ghanshyam Das Birla's first industrial venture was
 - (A) a textile related industry
 - (B) a cotton mill, Gwalior
 - (C) Keshoram Cotton Mills, Delhi
 - (D) car manufacturing company
3. What was Andrew Yule's role in Ghanshyam Das Birla's career?
 - (A) He helped Ghanshyam Das Birla in setting up cotton mills in Sabzi Mandi, Delhi.
 - (B) He invested Rs. 50 lakhs in Keshoram Cotton Mills
 - (C) He extended a lot of help to Ghanshyam Das Birla in his second venture.
 - (D) He helped Ghanshyam Das Birla in the field of business before the First World War.
4. What was Ghanshyam Das Birla's view about the British rule in India?
 - (A) The British rule was very atrocious.
 - (B) The British rule was counter productive to India's industrial growth.
 - (C) The British rule was not a hindrance to India's industrial growth.
 - (D) The industrial growth of India had nothing to do with gaining freedom from the British.
5. Which of the following can be inferred from the passage ?
 - I) Ghanshyam Das Birla could set up a large number of diverse industries due to British rule in India.
 - II) Ghanshyam Das Birla, with his family members, started various industries due to flourishing of the Stock Exchange.
 - III) Ghanshyam Das Birla was impressed by Gandhiji's philosophy.

(A) Both I and II

- (B) Both I and III
 (C) All the three
 (D) Only II and III
6. Which of the following statements is FALSE in the context of the passage?
- I) Ghanshyam Das Birla unfortunately died before realising the progress his business had made.
 II) Hindalco was set up in a very short time span.
 III) Ghanshyam Das Birla's management style was different from the traditional one.
- (A) Only I
 (B) Only II
 (C) Only III
 (D) Both I and II
6. A

8.1 Extra Practice questions

Read the following passage carefully and answer questions:

The first step is for us to realise that a city need not be a frustrater of life; it can be among other things, a mechanism for enhancing life, for producing possibilities of living which are not to be realized except through cities. But, for that to happen, deliberate and drastic planning is needed. Towns as much as animals, must have their systems of organs-those for transport and circulation are an obvious example. What we need now are organ systems for recreation, leisure, culture, community expression. This means abundance of open space, easy access to unspoilt Nature, beauty in parks and in fine buildings, gymnasias and swimming baths and recreation grounds in plenty, central spaces for celebrations and demonstrations, halls for citizens' meetings, concert halls and theatres and cinemas that belong to the city. And the buildings must not be built anyhow or dumped down anywhere; both they and their groupings should mean something important to the people of the place.

1. Cities can be made to provide full facilities for life, only if : :
- (A) these can be mechanically developed.
 (B) proper transport system is introduced.
 (C) cinemas, theatres and concert halls are established there.
 (D) these are thoughtfully and vigorously designed to serve people's needs.
2. A suitable title for the passage would be :
- (A) Towns versus Animals.
 (B) The Need for Planned Cities.
 (C) Transport and Communication System in a City.
 (D) The Need for Entertainment Centres in a City.
3. "A city need not be a frustrater of life" means that:
- (A) one does not expect fulfilment of all life's requirements from a city.
 (B) city life provides all the essential needs of life.
 (C) a city does not necessarily lift man's standard of living.
 (D) a city should not defeat the fulfilment of life's aspirations and aims.

4. Which one of the following has the opposite meaning to the word 'frustrater' in the passage?
- (A) Promoter
(B) Applauder
(C) Approver
(D) Executer
5. "The building must not be built anyhow or dumped down anywhere"....the statement implies that building :
- (A) should be built with suitable material.
(B) should be constructed, according to some suitable design, not indiscriminately.
(C) should be scattered to provide for more of open space.
(D) should be built to enable citizens to enjoy nature.
6. The word 'drastic' in the passage means :
- (A) orderly.
(B) powerful.
(C) consistent.
(D) determined.
7. The author talks about 'Unspoilt Nature'. In what way can Nature remain unspoilt?
- (A) If Nature is not allowed to interfere with people's day-to-day life.
(B) By building cities with the system of organs like those of animals.
(C) By allowing free access to parks and open spaces.
(D) By allowing Nature to retain its primitive, undomesticated character.
8. According to the author, the function of a city is to :
- (A) provide adequate community expression.
(B) make available centres of recreation and public gatherings.
(C) facilitate traffic and communication.
(D) raise the tone of life and make it more meaningful.
9. The opening sentence of the passage implies that :
- (A) the possibilities of living a decent life cannot be found in a city.
(B) only a city can provide the means to lead a full life.
(C) among other places, a city can also help man to lead a successful life.
(D) a city provides better opportunities for good living than a village.

4. A 5. C 6. B 7. B 8. D 9. B

Read the following passage carefully and answer questions:

True, it is the function of the army to maintain law and order in abnormal times. But in normal times there is another force that compels citizens to obey the laws and to act with due regard to the rights of others. The force also protects the lives and the properties of law abiding men. Laws are made to secure the personal safety of its subjects and to prevent murder and crimes of violence. They are made to secure the property of the citizens against theft and damage to protect the rights of communities and castes to carry out their customs and ceremonies, so long as they do not conflict with the rights of others. Now the good citizen, of his own free will obey these laws and he takes care that everything he does is done with due regard to the rights and well-being of others. But the bad citizen is only restrained from

breaking these laws by fear of the consequence of his actions. And the necessary steps to compel the bad citizen to act as a good citizen are taken by this force. The supreme control of law and order in a State is in the hands of a Minister who is responsible to the State Assembly and acts through the Inspector General of Police.

1. The expression 'customs and ceremonies' means :
 - (A) fairs and festivals.
 - (B) habits and traditions.
 - (C) usual practices and religious rites.
 - (D) superstitions and formalities.
2. A suitable title for the passage would be :
 - (A) the function of the army.
 - (B) laws and the people's rights.
 - (C) the fear of the law and citizen's security.
 - (D) the functions of the police.
3. Which of the following is not implied in the passage?
 - (A) Law protects those who respect it.
 - (B) Law ensures people's religious and social rights absolutely and unconditionally.
 - (C) A criminal is deterred from committing crimes only for fear of the law.
 - (D) The forces of law help to transform irresponsible citizens into responsible ones.
4. According to the writer, which one of the following is not the responsibility of the police?
 - (A) To protect the privileges of all citizens.
 - (B) To check violent activities of citizens.
 - (C) To ensure peace among citizens by safeguarding individual rights.
 - (D) To maintain peace during extraordinary circumstances.
5. Which of the following reflects the main thrust of the passage?
 - (A) It deals with the importance of the army in maintaining law and order.
 - (B) It highlights role of the police as superior to that of the army.
 - (C) It discusses the roles of the army and the police in different circumstances.
 - (D) It points to the responsibility of the Minister and the Inspector General of Police.
6. "They are made to secure die property of citizens against theft and damage", means that the law :
 - (A) helps in recovering the stolen property of the citizens.
 - (B) assist the citizens whose property has been stolen or destroyed.
 - (C) initiate process against offenders of law.
 - (D) safeguard people's possessions against being stolen or lost.
7. Out of the following which one has the opposite meaning to the word 'restrained' in the passage?
 - (A) Promoted
 - (B) Accelerated
 - (C) Intruded
 - (D) Inhibited
8. Which one of the following statement is implied in the passage?
 - (A) Peaceful citizens seldom violate the law, but bad citizens have to be restrained by the police.
 - (B) Criminals, who flout the law, are seldom brought to book.

1. C 2. D 3. B 4. D 5. C 6. D 7. B 8. D

- (C) The police hardly succeed in converting bad citizens into good citizens.
- (D) The police check the citizens, whether they are good or bad, from violating the law.
9. Which of the following statements expresses most accurately the idea contained in the first sentence?
- (A) It is the job of the army to ensure internal peace at all times.
- (B) It is the police that should always enforce law and order in the country.
- (C) Army and the police ensure people's security through combined operations.
- (D) It is in exceptional circumstances that
- the army has to ensure peace in the country. :
10. The last sentence of the passage implies that:
- (A) The Inspector General of Police is the sole authority in matters of law and order.
- (B) In every State maintenance of public peace is under the overall control of the responsible Minister.
- (C) A Minister and a responsible State, Assembly exercise direct authority in matters pertaining to law and order.
- (D) The Inspector General of Police is responsible to the State Assembly for maintaining law and order.

9. D 10. B

Read the following passage carefully and answer questions:

A recent report in News Week says that in American colleges, students of Asian origin outperform not only the minority group students but the majority whites as well. Many of these students must be of Indian origin, and their achievement is something we can be proud of. It is unlikely that these talented youngsters will come back to India, and that is the familiar brain drain problem. However recent statements by the nation's policy-makers indicate that the perception of this issue is changing. 'Brain bank' and not 'brain drain' is the more appropriate idea, they suggest since the expertise of Indians abroad is only deposited in other places and not lost. This may be so, but this brain bank, like most other banks, is one that primarily serves customers in its neighbourhood. The skills of the Asians now excelling in America's colleges will mainly help the U.S.A.. No matter how significant, what non-resident Indians do for India and what their counterparts do for other Asian lands is only a by-product. But it is also necessary to ask, or be reminded, why Indians study fruitfully when abroad. The Asians whose accomplishments News Week records would have probably had a very different tale if they had studied in India. In America they found elbow room, books and facilities not available and not likely to be available here. The need to prove themselves in their new country and the competition of an international standard they faced there must have cured mental and physical laziness. But other things helping them in America can be obtained here if we achieve a change in social attitudes, specially towards youth. We need to learn to value individuals and their unique qualities more than conformity and respectability. We need to learn the language of encouragement to add to our skill in flattery. We might also learn to be less liberal with blame and less tightfisted with appreciation, especially.

1. Among the many groups of students in American colleges, Asian students :
 - (A) are often written about in magazines like News Week.
 - (B) are most successful academically.
 - (C) have proved that they are as good as the whites.
 - (D) have only a minority status like the blacks.
2. The student of Asian origin in America include :
 - (A) a fair number from India.
 - (B) a small group from India.
 - (C) persons from India who are very proud.
 - (D) Indians who are the most hard working of all.
3. In general, the talented young Indians studying in America :
 - (A) have a reputation for being hard working.
 - (B) have the opportunity to contribute to India's development.
 - (C) can solve the brain drain problem because of recent changes in policy.
 - (D) will not return to pursue their careers in India.
4. There is talk now of the 'brain bank'. This idea :
 - (A) is a solution to the brain drain problem.
 - (B) is a new problem caused partly by the brain drain.
 - (C) is a new way of looking at the role of qualified Indians living abroad.
 - (D) is based on a plan to utilize foreign exchange remittances to stimulate research and development.
5. The brain bank has limitations like all banks in the sense that:
 - (A) a bank's services go mainly to those near it.
 - (B) small neighbourhood banks are not visible in this age of multinationals.
 - (C) only what is deposited can be withdrawn and utilized.
 - (D) no one can be forced to put his assets in a bank.
6. The author feels that what non-resident Indians do for India :
 - (A) will have many useful side effects.
 - (B) will not be their main interest and concern.
 - (C) can benefit other Asian countries, as a by-product.
 - (D) can American colleges be of service to the world community.
7. The performance of Indians when they go to study in the West:
 - (A) shows the fruits of hardwork done by school teachers in India.
 - (B) should remind us that knowledge and wisdom are not limited by the boundaries of race and nation.
 - (C) is better than people in the West expect of non-whites.
 - (D) is better than what it would have been if they had studied in India.
8. The high level of competition faced by Asian students in America :
 - (A) helps them overcome their lazy habits.
 - (B) makes them lazy since the facilities there are good.
 - (C) makes them worried about failing.
 - (D) helps them prove that they are as good as whites.
9. The author feels that some of the conditions other than the level of facilities that make the West attractive :

- (A) are available in India but young people do not appreciate them.
- (B) can never be found here because we believe in conformity.
- (C) can be created if our attitudes and values change.
- (D) can also give respectability to our traditions and customs.

- 10.** One of the ways of making the situation in India better would be :
- (A) to eliminate flattery from public life.
- (B) to distinguish between conformity and respectability.
- (C) to give appreciation and not be tight-fisted.
- (D) to encourage people and not merely flatter them.

10. C

Read the following passage carefully and answer questions:

What are the good parts of our civilization ? First and foremost there are order and safety. If today I have a quarrel with another man, I do not get beaten merely because I am physically weaker and he can kick me down. I go to law, and the law will decide as fairly as it can between the two of us. Thus in disputes between man and man right has taken the place of might. Moreover, the law protects me from robbery and violence. Nobody may come and break into my house, steal my goods or run off with my children. Of course, there are burglars, but they are very rare, and the law punishes them whenever it catches them. It is difficult for us to realize how much this safety means. Without safety these higher activities of mankind which make up civilization could not go on. The inventor could not invent, the scientist find out or the artist make beautiful things. Hence, order and safety, although they are not themselves civilization are things without which civilization would be impossible. They are as necessary to our civilization as the air we breathe is to us; and we have grown so used to them that we do not notice them any more than we notice the air. Another great achievement of our civilization is that today civilized men are largely free from the fear of pain. They still fall ill, but illness is no longer the terrible thing it used to be.... Not only do men and women enjoy better health; they live longer than they ever did before, and they have a much better chance of growing up.... Thirdly, our civilization is more secure than any that have gone before it. This is because it is much more widely spread.... Previous civilizations were specialized and limited, they were like oases in a desert.

- 1.** What is the first merit of our civilization ?
- (A) Material advancement
- (B) Cultural advancement
- (C) Development of science
- (D) Order and safety
- 2.** Now-a-days a physically weak man is provided protection by :
- (A) The group whose membership he opts for
- (B) The law
- (C) His wit and wisdom
- (D) His cunningness
- 3.** In olden days the rule of life was :
- (A) Right
- (B) Might
- (C) Spiritualism
- (D) None of these

1. D 2. B 3. B

4. The essential condition for the promotion of higher activities of life is:
- (A) Dedication on the part of those who practise them
 - (B) Economic freedom
 - (C) Safety
 - (D) State support
5. What according to the author, is the second merit of the present civilization?
- (A) Development of means of transport and communication
 - (B) Space research
 - (C) Freedom from drudgery
 - (D) Freedom from the fear of pain
6. What according to the author has the freedom from the fear of pain led to ?
- (A) Better health
 - (B) Abundant leisure
 - (C) Increased cultural pursuits
 - (D) None of these
7. The third merit of the present civilization, according to the author, is:
- (A) The present civilization is founded on justice
 - (B) The present civilization has liberal outlook on
 - (C) The present civilization is more wide spread in the sense that large number of people are civilized now than ever before
 - (D) The present civilization is more secure than any that has gone before
8. 'They were like oases in a desert' what does it mean ?
- (A) Previous civilizations were more attractive than the present civilization
 - (B) Previous civilizations were confined to a very limited area while barbarians were far larger in number
 - (C) Previous civilizations were shortlived
 - (D) Previous civilizations were attractive from outside only
9. The present civilization :
- (A) Begins from 15th century
 - (B) Begins from 17th century
 - (C) Begins from 18th century
 - (D) Has no fixed date for its inception
10. The most appropriate title to the above passage may be:
- (A) The merits of the Previous Civilizations
 - (B) The Defects of the Present Civilizations
 - (C) Merits and Demerits of the Present Civilizations
 - (D) The Limitations of the Previous Civilizations

4. C 5. D 6. A 7. D 8. B 9. D 10. A

Read the following passage carefully and answer questions:

On the death of Alexander the great his vast empire was almost immediately broken up into three main divisions. In the East, his General Seleucus Nikator founded an empire comprising Persia, Mesopotamia, Syria and part of Asia Minor, that is, almost all the area from the Hellespont to the Indus. The capital of this empire was Antioch, which became one of the greatest commercial centres of those times, through which merchandise for Arabia, India and China flowed into the Mediterranean. The second division of the Alexandrian empire was the Graeco-Egyptian kingdom founded by Ptolemy I, another general of Alexander. Its

chief city was Alexandria which, with its safe harbour and splendid library, became for a long time the most important centre of Greek civilization and culture in the ancient world. The third and the smallest division was Macedon, ruled by Antigonos and his successor, who had partial control over Greece till 146 B.C. In that, year Greece was made a Roman province under name of Achaia. Later, both Syria and Egypt were also conquered by the Romans.

1. When Alexander died, his empire :
 - (A) Was disintegrated to several pieces.
 - (B) Was broken into three divisions.
 - (C) Was expanded by his son.
 - (D) Went totally out of existence.
2. Seleucus Nikator founded an empire in the :
 - (A) South
 - (B) West
 - (C) East
 - (D) North
3. Which of the following was not included in the empire of Seleucus Nikator ?
 - (A) Persia
 - (B) Egypt
 - (C) Syria
 - (D) Part of Asia Minor
4. The capital of Seleucus Nikator's empire was
 - (A) Athens
 - (B) Sparta
 - (C) Antioch
 - (D) Troy
5. The second division of Alexandrian empire was:
 - (A) Babylonian kingdom
 - (B) Graeco-Turkish kingdom
 - (C) Assyrian kingdom
 - (D) Graeco-Egyptian kingdom
6. The second division of Alexandrian empire was founded by :
 - (A) Alexander's eldest son
 - (B) Alexander's youngest son
 - (C) Alexander's grandson
 - (D) Ptolemy I
7. The chief city of Graeco-Egyptian kingdom was :
 - (A) Cairo
 - (B) Damascus
 - (C) Alexandria
 - (D) Antioch
8. Which of the following cities was for a long time the most important centre of Greek civilization and culture in the ancient world ?
 - (A) Athens
 - (B) Sparta
 - (C) Constantinople
 - (D) Macedonia
9. Who was Antigonos ?
 - (A) The General who was responsible for the death of Alexander
 - (B) The great warrior to whom goes the credit of successes in Alexander's military expeditions
 - (C) He was the founder of the third division of Alexandrian empire, known as Macedon
 - (D) The Roman emperor who conquered Greece and annexed it into the Roman empire
10. When did Greece become a Roman province ?
 - (A) In 326 BC
 - (B) In 206 BC
 - (C) In 171 BC
 - (D) In 146 BC


Read the following passage carefully and answer questions:

One of the main reasons of corruption in elections today is the lure of power which haunts the politicians so much that they feel no qualms of conscience in adopting any underhand method to come out successful. The Watergate Scandal in the U.S.A. is an eloquent example to testify to the fact how even the top level politicians can stoop to the lowest level in order to maintain themselves in power. Who does not remember how Adolf Hitler rode roughshod over all canons of electoral propriety to capture power? In India also the record of the various political parties is not clean. Corruption thrives in elections because those in the field play on the psychology of the electorate. The voters are swayed by the tall promises of the candidates to whose machinations they fall an easy prey. They are also susceptible to fall an easy prey to the adulations of the politicians due to their illiteracy. Besides, in the representative democracies today and particularly in big countries the constituencies are quite extensive obviating the possibility of corrupt practices being discovered. Anti-corruption laws are honored more in their breach than in their observance. Even the code of conduct to be observed by the parties fighting the elections becomes a dead letter in as much as it is jettisoned out of existence and thrown unscrupulously overboard by the unfair politicians whose only aim is to maintain themselves in the saddle.

1. The politicians indulge in corruption in elections now-a-days because :
 - (A) Of lure of power
 - (B) Lure of money
 - (C) Elections can be won only by corrupt means
 - (D) Corrupt practices in elections go unnoticed
2. Which example of the U.S.A. testifies to the fact that even the top level people can stoop very low in order to maintain themselves in power ?
 - (A) The New Deal
 - (B) The Watergate Scandal
 - (C) The Washington Agreement
 - (D) None of these
3. Adolf Hitler came to power :
 - (A) As a result of bungling in elections
 - (B) By liquidating any semblance of opposition
 - (C) With foreign help
 - (D) By conquest
4. How does corruption thrive in elections?
 - (A) The people themselves are corrupt
 - (B) A sizable part of the society is corrupt
 - (C) There is natural connection between elections and corruption
 - (D) The politicians exploit the electorate psychologically
5. Why according to the writer do the voters fall an easy prey to the machinations of the politicians ?
 - (A) They want to sell their votes because of poverty
 - (B) They are illiterate and do not understand what designs the politicians have at the back of their tall promises
 - (C) They are totally indifferent to what happens on the political horizon
 - (D) They have no political knowledge worth the name
6. Why according to the writer, do the corrupt practices indulged in elections go unnoticed ?
 - (A) The people themselves are corrupt
 - (B) A sizable part of the society is corrupt
 - (C) There is natural connection between elections and corruption
 - (D) The politicians exploit the electorate psychologically


1. A 2. B 3. A 4. D 5. B

- (A) Because nobody is interested in discovering corrupt practices
- (B) Because vested interests shield those who indulge in corrupt practices
- (C) Because constituencies are so small that the politicians take the electorate, whose number is very limited, into confidence
- (D) Because the constituencies are so big that it becomes difficult to discover the corrupt practices
7. What happens to the anti-corruption laws ?
- (A) There is actually no such things as anti-corruption laws
- (B) Anti-corruption laws are certainly honoured but in a limited way
- (C) Anti-corruption laws are honoured more in their breach than in their observance
- (D) Anti-corruption laws are simply an eye wash just to hoodwink the masses
8. What happens to the code of conduct?
- (A) It is not observed at all
- (B) It is observed only in a very limited way
- (C) It is prepared in such a way that it leaves loop holes for the practice of corruption in elections
- (D) There is no such thing as code of conduct
9. 'To maintain themselves in the saddle' means :
- (A) To remain in state of preparedness
- (B) To be ready to run whenever danger is apprehended
- (C) To retain power in their hands by continuing in office
- (D) To oust the opposition at every cost
10. Which one of the following may be the most appropriate title to the above passage ?
- (A) Corruption in High Places
- (B) Politicians Game of Power
- (C) Elections and Corruption
- (D) The True Character of a Politician

6. D 7. C 8. A 9. C 10. C

Read the following passage carefully and answer questions:

What is immediately needed today is the establishment of a World Government or an International Federation of Mankind. It is the utmost necessity of the world today, and all those persons who wish to see all human beings happy and prosperous naturally feel it keenly. Of course, at times, we all feel that many of our problems of our political, social and cultural life would come to an end if there were one Government all over the world. Travellers, businessmen, seekers of knowledge and teachers of righteousness know very well that great impediments and obstructions are faced by them when they pass from one country to another, exchange goods, get information, and make an effort to spread their good gospel among their fellow-men. In the past religious sects divided one set of people against another, colour of the skin or construction of the body set one against the other. But today when philosophical light has exploded the darkness that was created by religious differences, and when scientific knowledge has falsified the theory of social superiority and when modern inventions have enabled human beings of all religious views and of all races and colours to come in frequent contact with one another, it is the governments of various



countries that keep people of one country apart from those of another. They create artificial barriers, unnatural distinctions, unhealthy isolation, unnecessary fears and dangers in the minds of the common men who by their nature want to live in friendship with their fellow-men. But all these evils would cease to exist if there were one Government all over the world.

1. What is the urgent need of the world today ?
 - (A) The establishment of an international economic order
 - (B) The establishment of a world government
 - (C) The creation of a cultured international social order
 - (D) The raising of an international spiritual army
2. The people who face impediments and obstructions when they pass from one country to another and do a lot of good jobs are all the following except:
 - (A) Businessmen
 - (B) Seekers of knowledge
 - (C) Teachers of righteousness
 - (D) Empire builders
3. In the past religious sects :
 - (A) United the people with one another
 - (B) Divided one set of people from another
 - (C) Interfered in political affairs
 - (D) Kept away from political affairs
4. What was the factor that set one man against another ?
 - (A) Material prosperity of certain people in the midst of grinding poverty
 - (B) Superior physical strength of some persons
 - (C) Colour of the skin or construction of the body
 - (D) Psychological barriers
5. The theory of racial superiority stands falsified today by:
 - (A) Scientific knowledge
 - (B) The achievements of the so-called inferior races in every field of life
 - (C) The precedence given to physical prowess which the so-called inferior races possess and the so-called superior races lack
 - (D) None of the above factors
6. What will the world Government be expected to do?
 - (A) It will bring about universal happiness and prosperity
 - (B) It will bring about a moral regeneration of mankind
 - (C) It will kill the satan that is in man
 - (D) It will arrange for interplanetary contacts
7. Which of the following problems has not been mentioned in the passage as likely to be solved with the establishment of world Government ?
 - (A) Social problems (
 - (B) Cultural problems
 - (C) Economic problems
 - (D) None of these
8. What or what divide/divides people of one country against another ?
 - (A) Different religions.
 - (B) Different languages.
 - (C) Different social and political systems of different people.
 - (D) Government of various countries.

1. B 2. D 3. B 4. C 5. A 6. A 7. C 8. D

9. What do the government of various countries do to keep people of one country apart from those of another?
- (A) They create artificial barriers.
 (B) They foster unhealthy isolation.
 (C) They create unnecessary fears and dangers in the minds of the people.
 (D) All of them.
10. The most appropriate title of the above passage may be:
- (A) The Evils Nurtured by National Governments.
 (B) The Unity of the World.
 (C) The Need of World Government.
 (D) The Role of Religion in the Modern Times.

9. D 10. C

Read the following passage carefully and answer questions:

Now the question arises, what is the secret of the longevity and imperishability of Indian culture? Why is it that such great empires and nations as Babylon, Assyria, Greece, Rome and Persia, could not last more than the footprints of a camel in the shifting sands of the desert, while India which faced the same ups and downs, the same mighty and cruel hand of time, is still alive and with the same halo of glory and splendour? The answer is given by Prof. J. B. Pratt of America. According to him Hindu religion is the only religion in the world which is 'self-perpetuating and self-renewing.' Unlike other religions 'not death, but development' has been the fate of Hinduism. Not only Hindu religion but the whole culture of the Hindus has been growing changing and developing in accordance with the needs of time and circumstance without losing its essential and imperishable spirit. The culture of the vedic ages, of the ages of the Upanishads, the philosophical systems, the Mahabharata, the Smirities, the Puranas, the commentators, the medieval aints and of the age of the modern reformers is the same in Spirit and yet very different in form. Its basic principles are so broad based that they can be adapted to almost any environment of development.

1. The author has compared India with all the following except-
- (A) Greece
 (B) Rome
 (C) Babylon
 (D) Egypt
2. In what respect is India implied to be superior to all other nations and empires?
- (A) Material development
 (B) Cultural advancement
 (C) Military strength
 (D) Territorial expansion
3. What, according to J. B. Pratt, is the secret of the longevity and imperishability of Indian culture?
- (A) It has its origin in the remote past
 (B) It issues from the minds and hearts of its sages
 (C) It is self-perpetuating and self-renewing
 (D) It is founded on
4. Which of the following has not been mentioned as a particular period of Indian culture?
- (A) The Vedic age
 (B) The age of Upanishads
 (C) The age of the Mahabharata :
 (D) The British period

1. D 2. B 3. C 4. D

5. What changes has the spirit of Indian culture undergone during its long history right from the vedic age down to the present times ?
- (A) The precedence of moral values was eclipsed at certain periods of time
 (B) Materialism was the hall-mark of Indian culture during certain periods of time
 (C) During certain periods military development was the be-all and end-all of Indian culture
 (D) The spirit of Indian culture has practically been the same from the ancient times down to the present
6. What according to the author has always characterised the Hindu religion ?
- (A) Development
 (B) Stagnation
 (C) Sometimes development and sometimes stagnation
 (D) Lack of moral values
7. Which other religion has been mentioned in the passage as self-developing and self-renewing as Hindu religion ?
- (A) Christianity
 (B) Islam
 (C) Jainism
 (D) None of these
8. "Could not last more than the footprints of a camel on the shifting sands of the desert." What does it mean ?
- (A) It lost itself in deserts
 (B) It was transient
 (C) It lacked solidity
 (D) It was limited only to desert areas
9. What is the characteristic quality of the basic principles of Indian culture ?
- (A) They are static
 (B) They derive their strength from the genius of the people
 (C) They can be adapted almost to any environment of development
 (D) They believe in the purity of Indian culture
10. Which of the following may be the best title of the passage ?
- (A) Unity of Indian Culture
 (B) Indian Civilization and Culture
 (C) Indian Religion and Civilization
 (D) Characteristics of Indian Culture

5. D 6. A 7. D 8. B 9. C 10. D

Read the following passage carefully and answer questions:

The capitalist system of society does not foster healthy relations among human beings. A few people own all the means of production and others- though nominally few have to sell their labour under conditions imposed upon them. The emphasis of capitalism being on the supreme importance of material wealth the intensity of its appeal is to the acquisitive intensity. It promotes worship of economic power with little regard to the means employed for its acquisition and the end that it serves. By its exploitation of human beings to the limits of endurance its concentration is on the largest profit rather than maximum production. Thus the division of human family is done on the basis of economic circumstance. All this is injurious to division of human dignity. And when the harrowed poor turn to the founders of religion for succour, they rather offer a subtle defence for the established order. They promise future happiness for their present suffering and conjure up visions of paradise to


redress the balance to soothe the suffering and the revolt of the tortured men. The system imposes injustice, the religion justifies it.

1. The passage indicates that the capitalist system is:
 - (A) Fair
 - (B) ambitious
 - (C) prosperous
 - (D) dehumanising
2. The established order is supported by religion to:
 - (A) alleviate the suffering of the poor in the capitalist system.
 - (B) perpetuate the injustice imposed by the capitalist system.
 - (C) balance the suffering of the poor with hopes of future rewards.
 - (D) help the tortured men to seek redress.
3. In a capitalist system:
 - (A) the means justify the ends.
 - (B) the ends justify the means.
 - (C) the means endorsed by religion are strictly followed.
 - (D) means which lead to exploitation are strictly prohibited
4. Capitalism is injurious to human relations because it divides society into two groups:
 - (A) working and non-working
 - (B) exploiters and exploited
 - (C) religious and irreligious
 - (D) buyers and sellers
5. In a capitalistic system of society each man wishes:
 - (A) to acquire maximum wealth.
 - (B) to produce maximum wealth.
 - (C) to have visions of paradise.
 - (D) to soothe the sufferings of other.

1. D 2. B 3. B 4. B 5. A

Read the following passage carefully and answer questions:

It is a strange that, according to his position in life, an extravagant man is admired or despised. A successful businessman does nothing to increase his popularity by being careful with his money. He is expected to display his success, to have smart car, an expensive life, and to be lavish with his hospitality. If he is not so, he is considered mean and his reputation in business may even suffer in consequence. The paradox remains that if he had not been careful with his money in the first place, he would never have achieved his present wealth. Among the two income groups, a different set of values exists. The young clerk who makes his wife a present of a new dress when he hadn't paid his house rent, is condemned as extravagant. Carefulness with money to the point of meanness is applauded as a virtue. Nothing in his life is considered more worthy than paying his bills. The ideal wife for such a man separates her housekeeping money into joyless little piles- so much for rent, for food, for the children's shoes; she is able to face the milkman with equanimity and never knows the guilt of buying something she can't really afford. As for myself, I fall into neither of these categories. If I have money to spare, I can be extravagant, but when, as is usually the case,



I am hard up, then I am the meanest man imaginable.

1. In the opinion of the writer, a successful businessman:
 - (A) is more popular if he appears to be doing nothing.
 - (B) should not bother about his popularity.
 - (C) must be extravagant before achieving success.
 - (D) is expected to have expensive tastes.
2. The phrase lavish with his hospitality signifies:
 - (A) miserliness in dealing with his friends.
 - (B) considerateness in spending on guests and strangers.
 - (C) extravagance in entertaining guests.
 - (D) indifference in treating his friends and relatives.
3. We understand from the passage that:
 - (A) all mean people are wealthy
 - (B) wealthy people are invariably successful.
 - (C) carefulness generally leads to failure.
 - (D) thrift may lead to success.
4. It seems that low paid people should:
 - (A) not pay their bills promptly.
 - (B) not keep their creditors waiting.
 - (C) borrow money to meet their essential needs
 - (D) feel guilty if they overspend
5. The word paradox means:
 - (A) statement based on facts.
 - (B) that which brings out the inner meaning.
 - (C) that which is contrary to received opinion.
 - (D) statement based on the popular opinion.
6. How does the housewife, described by the writer, feel when she saves money?
 - (A) is content to be so thrifty.
 - (B) wishes life were less burdensome.
 - (C) is still troubled by a sense of guilt.
 - (D) wishes she could sometimes be extravagant.
7. Which of the following is opposite in meaning to the word applauded in the passage?
 - (A) Humiliated
 - (B) Decried
 - (C) Cherished
 - (D) Suppressed
8. The statement she is able to face the milkman with equanimity implies that:
 - (A) she is not upset as she has been paying the milkman his dues regularly.
 - (B) she loses her nerve at the sight of the milkman who always demands his dues.
 - (C) she manages to keep cool as she has to pay the milkman who always demands his dues.
 - (D) she remains composed and confident as she knows that she can handle the milkman tactfully.
9. As far as money is concerned, we get the impression that the writer:
 - (A) is incapable of saving anything
 - (B) is never inclined to be extravagant
 - (C) would like to be considered extravagant
 - (D) doesn't often have any money to save.

1. D 2. C 3. D 4. D 5. C 6. A 7. B 8. A 9. D 10. C

10. Which of the following would be the most suitable title for the passage?
- (A) Extravagance leads to poverty
 (B) Miserly habits of the poor.
 (C) Extravagance in the life of the rich and the poor.
 (D) Extravagance is always condemnable.

Read the following passage carefully and answer questions:

A Close look at the facts relating to political interference in administration shows that it is not a one-way process. There is often a nexus between power hungry and corrupt politicians and civil servants with convenient principles. Many civil servants are only too anxious to oblige the politicians, and then cash the obligation when they need some special favour. So the attitude of self-righteousness adopted by the civil service is sometimes only a way of covering their own flaws by blaming others. Every now and then some retired civil servants come out with his memoirs, painting a glorious picture of the heights of administrative efficiency reached during his reign. There is often the suggestion that had there not been so much political interference, things would have been even more fantastic. It is not unusual for the self styled hero to blame not only interfering politicians but also fellow civil servants who are idiots or crooks, for his failures. This attitude of smug self-satisfaction is, unfortunately, developed during the years of service. Self preservation rather than service is encouraged by our whole system of rules and procedures. The remedy has to be drastic and quickly effective. The over protection now granted to civil servants must end. Today to remove an erring civil servant is just not possible. And the only thing that the highest authority in the Government, both in the State and at the Centre, can do is to transfer an official from one job to another. The rules for taking disciplinary action are so complicated that, in the end, the defaulting civil servants gets away, and gets his full emoluments even for the period of the disciplinary proceedings, thus making it a paid holiday for him. The result is that the administration has become rule-oriented and not result-oriented. Action is possible against the official who takes some interest in his work, but no action is ever taken against a person who does not deliver the goods. If the country is to adopt a result-oriented approach, it is necessary to link job performance with job retention.

1. The facts relating to the problem of political interference indicate that:
- (A) honest bureaucrats are always being troubled by politicians.
 (B) politicians are often misled and trapped by civil servants.
 (C) politicians and civil servants cooperate to gain mutual advantages.
 (D) politicians and civil servants use interference as an excuse for victimising the common man.
2. The attitude of self-righteousness adopted by the civil service, according to the writer:
- (A) is not welcomed and supported by politicians.
 (B) is dishonest and conceals the facts.
 (C) is very difficult to maintain because of opposition.
 (D) does not really help the public get fair treatment.
3. Civil servants who write their memoirs after retiring:

1. C 2. B 3. A

- (A) claim that they would have achieved outstanding success if interference had not come in the way.
- (B) prove that constant political interference made it impossible for them to do anything properly.
- (C) complain that the credit for their achievements goes to dishonest politicians.
- (D) prove that people of inferior quality in the civil service bring about interference.
- 4.** The existing system of administration seems to encourage civil servants:
- (A) to become self-styled heroes and boss over others.
- (B) to present a glorious picture of the administration.
- (C) to become self-centred and concerned mainly about their own gain.
- (D) to become self-righteous and fight back against corrupt politicians.
- 5.** The problem with the present set-up needing urgent action is:
- (A) a lack of accountability on the part of civil servants.
- (B) a lack of control over the power of politicians.
- (C) a neglect of the ideals of self-righteousness.
- (D) complicated rules and procedures that greatly reduce efficiency.
- 6.** The main principle of the remedy proposed by the writer is, that:
- (A) the politicians should be made accountable for all their decisions.
- (B) the high level of protection enjoyed by civil servants should be reduced.
- (C) the common man's right to efficient and fair administration must be protected.
- (D) rules should be simplified so that there is less scope for misuse.
- 7.** According to existing procedures, if a civil servant is found to be unsuitable or dishonest:
- (A) he can appeal to an authority like the Supreme Court.
- (B) politicians with whom he has special links will interfere to help him.
- (C) transferring him to another post is the usual action taken.
- (D) a conflict between Central Government and State Government interests can arise.
- 8.** The writer refers to a paid holiday to support his argument that:
- (A) civil servants get a lot of extra benefits.
- (B) disciplinary action is generally not quick or effective.
- (C) lazy and inefficient bureaucrats seem to be on holiday even when on duty.
- (D) special postings that favoured civil servants are necessary and wasteful.
- 9.** The expression linking job performance with job retention refers to a policy in which:
- (A) selection to civil service jobs is on the basis of rigorous performance tests.
- (B) selection to civil service jobs is on the basis of rigorous performance and not a minister's opinion is the basis of transfer or promotion.
- (C) retention of good government servants by discouraging their going to private companies.
- (D) continuation in service will depend on satisfactory performance.
- 10.** The expression deliver the goods means:
- (A) show good job performance
- (B) accept bribes or other illegal favours.
- (C) make payments of black money as bribes.
- (D) successfully defend oneself against a charge, in a disciplinary inquiry.

8.2 Other

Read the following passage carefully and answer questions:

I felt the wall of the tunnel shiver. The master alarm squealed through my earphones. Almost simultaneously, Jack yelled down to me that there was a warning light on. Fleeting but spectacular sights snapped into and out of view, the snow, the shower of debris, the moon, looming close and big, the dazzling sunshine for once unfiltered by layers of air. The last twelve hours before re-entry were particular bone-chilling. During this period, I had to go up in to command module. Even after the fiery re-entry splashing down in 81o water in south pacific, we could still see our frosty breath inside the command module.

- The word 'Command Module' used twice in the given passage indicates perhaps that it deals with
 - an alarming journey
 - a commanding situation
 - a journey into outer space
 - a frightful battle.
- Which one of the following reasons would one consider as more as possible for the warning lights to be on?
 - There was a shower of debris.
 - Jack was yelling.
 - A catastrophe was imminent.
 - The moon was looming close and big.
- The statement that the dazzling sunshine was "for once unfiltered by layers of air" means
 - that the sun was very hot
 - that there was no strong wind
 - that the air was unpolluted
 - none of above

1. C 2. C 3. D

Read the following passage carefully and answer questions:

But I did not want to shoot the elephant. I watched him beating his bunch of grass against his knees, with the preoccupied grandmotherly air that elephants have. It seemed to me that it would be murder to shoot him. I had never shot an elephant and never wanted to. (Somehow it always seems worse to kill large animal.) Besides, there was the beast's owner to be considered. But I had got to act quickly. I turned to some experienced-looking Burmans who had been there when we arrived, and asked them how the elephants had been behaving. They all said the same thing; he took no notice of you if you left him alone, but he might charge if you went too close to him.

- The phrase 'Preoccupied grandmotherly air' signifies
 - being totally unconcerned
 - pretending to be very busy
 - a very superior attitude
 - calm, dignified and affectionate disposition
- From the passage it appears that the au-

1. D 2. B

- thor was
- (A) an inexperienced hunter
(B) kind and considerate
(C) possessed with fear
(D) a worried man
3. The author did not want to shoot the elephant because he
- (A) was afraid of it
(B) did not have the experience of shooting big animals
(C) did not wish to kill animal which was not doing anybody any harm
(D) did not find the elephant to be ferocious

3. B

Read the following passage carefully and answer questions:

Harold a professional man who had worked in an office for many years had a fearful dream. In it, he found himself in a land where small slug-like animals with slimy tentacles lived on people's bodies. The people tolerated the loathsome creatures because after many years they grew into elephants which then became the nation's system of transport, carrying everyone wherever he wanted to go. Harold suddenly realised that he himself was covered with these things, and he woke up screaming. In a vivid sequence of pictures this dream dramatised for Harold what he had never been able to put in to words; he saw himself as letting society feed on his body in his early years so that it would carry him when he retired. He later threw off the "security bug" and took up freelance work.

1. In his dream Harold found the loathsome creatures
- (A) in his village
(B) in his own house
(C) in a different land
(D) in his office
2. Which one of the following phrases best helps to bring out the precise meaning of 'loathsome creatures'?
- (A) Security bug and slimy tentacles
(B) Fearful dream and slug-like animals
(C) Slimy tentacles and slug-like animals
(D) slug-like animals and security bug
3. The statement that 'he later threw off the security bug' means that
- (A) Harold succeeded in overcoming the need for security
(B) Harold stopped giving much importance to dreams
(C) Harold started tolerating social victimisation
(D) Harold killed all the bugs troubled him
4. Harold's dream was fearful because
- (A) it brought him face to face with reality
(B) it was full of vivid pictures of snakes
(C) he saw huge elephant in it
(D) in it he saw slimy creatures feeding on people's bodies

1. C 2. C 3. A 4. D

Read the following passage carefully and answer questions:

Laws of nature are not commands but statements of acts. The use of the word "law" in this context is rather unfortunate. It would be better to speak of uniformities in nature. This would do away with the elementary fallacy that a law implies a law giver. If a piece of matter does not obey a law of nature it is punished. On the contrary, we say that the law has been incorrectly started.

1. If a piece of matter violates nature's law, it is not punished because
 - (A) it is not binding to obey it
 - (B) there is no superior being to enforce the law of nature
 - (C) it cannot be punished
 - (D) it simply means that the facts have not been correctly stated by law
2. Laws of nature differ from man-made laws because
 - (A) the former state facts of Nature
 - (B) they must be obeyed
 - (C) they are natural
 - (D) unlike human laws, they are systematic
3. The laws of nature based on observation are
 - (A) conclusion about the nature of the universe.
 - (B) true and unfalsifiable.
 - (C) figments of the observer imagination.
 - (D) subject to change in the light of new facts.
4. The author is not happy with word 'law' because
 - (A) it connotes rigidity and harshness
 - (B) it implies an agency which has made them
 - (C) it does not convey the sense of nature's uniformity
 - (D) it gives rise to false beliefs

1. B 2. A 3. D 4. A

Read the following passage carefully and answer questions:

Male lions are rather reticent about expanding their energy in hunting more than three quarters of kills are made by lionesses are in front, tensely scanning ahead, the cubs lag playfully behind and the males bring up the rear, walking slowly, their massive heads nodding with each step as if they were bored with the whole matter. But slothfulness may have survival value. With lionesses busy hunting, the males function as guard for the cubs, protecting them particularly from hyenas.

1. According to the passage male lions generally do not go for huntings because
 - (A) they don not like it.
 - (B) they want lioness to get training
 - (C) they wish to save their vigour for other things

1. C

- (D) they are very lazy
2. Male lions protect their cubs
- (A) from the members of their own species
- (B) from hyenas only
- (C) from hyenas as much as from other enemies
- (D) more from hyenas than from other animals
3. Lioness go for hunting
- (A) all alone
- (B) with their male partners only
- (C) with their cubs and male partners
- (D) with their cubs only
4. When the lionesses go in search for their prey, they are very
- (A) serious
- (B) cautious
- (C) playful
- (D) sluggish

2. D 3. C 4. B

Read the following passage carefully and answer questions:

At this stage of civilisation, when many nations are brought in to close and vital contact for good and evil, it is essential, as never before, that their gross ignorance of one another should be diminished, that they should begin to understand a little of one another's historical experience and resulting mentality. It is the fault of the English to expect the people of other countries to react as they do, to political and international situations. Our genuine goodwill and good intentions are often brought to nothing, because we expect other people to be like us. This would be corrected if we knew the history, not necessarily in detail but in broad outlines, of the social and political conditions which have given to each nation its present character.

1. According to the author of 'Mentality' of a nation is mainly product of its
- (A) history
- (B) international position
- (C) politics
- (D) present character
2. The need for a greater understanding between nations
- (A) was always there
- (B) is no longer there
- (C) is more today than ever before
- (D) will always be there
3. The character of a nation is the result of its
- (A) mentality
- (B) cultural heritage
- (C) gross ignorance
- (D) socio-political conditions
4. According to the author his countrymen should
- (A) read the story of other nations
- (B) have a better understanding of other nations
- (C) not react to other actions
- (D) have vital contacts with other nations
5. Englishmen like others to react to political situations like
- (A) us
- (B) themselves
- (C) others
- (D) each others

1. A 2. C 3. D 4. B 5. B

Read the following passage carefully and answer questions:

What needs to be set right is our approach to work. It is a common sight in our country of employees reporting for duty on time and at the same time doing little work. If an assessment is made of time they spent in gossiping, drinking tea, eating "pan" and smoking cigarettes, it will be shocking to know that the time devoted to actual work is negligible. The problem is the standard which the leadership in administration sets for the staff. Forget the ministers because they mix politics and administration. What do top bureaucrats do? What do the below down officials do? The administration set up remains weak mainly because the employees do not have the right example to follow and they are more concerned about being in the good books of the bosses than doing work.

1. The employees in our country
 - (A) are quite punctual but not duty conscious
 - (B) are not punctual, but somehow manage to complete their work
 - (C) are somewhat lazy but good natured
 - (D) are not very highly qualified
2. According to the writer, the administration in India
 - (A) is by and large effective
 - (B) is very strict and firm
 - (C) is affected by red tape
 - (D) is more or less ineffective
3. The word 'assessment' means
 - (A) enquiry
 - (B) report
 - (C) evaluation
 - (D) summary
4. The leadership in administration
 - (A) sets a fine example to the employees
 - (B) is of a reasonably high standard
 - (C) is composed of idealists
 - (D) is of a very poor standard
5. The central idea of passage could be best expressed by the following
 - (A) The employee outlook towards work is justified
 - (B) The employee must change their outlook towards work
 - (C) The employees would never change their work culture
 - (D) The employer-employee relationship is far from healthy

1. A 2. D 3. A 4. D 5. B

Read the following passage carefully and answer questions:

Speech is great blessings but it can also be great curse, for while it helps us to make our intentions and desires known to our fellows, it can also if we use it carelessly, make our attitude completely misunderstood. A slip of the tongue, the use of unusual word, or of an ambiguous word, and so on, may create an enemy where we had hoped to win a friend. Again, different classes of people use different vocabularies, and the ordinary speech of an educated may strike an uneducated listener as pompous. Unwittingly, we may use a word

which bears a different meaning to our listener from what it does to men of our own class. Thus speech is not a gift to use lightly without thought, but one which demands careful handling. Only a fool will express himself alike to all kinds and conditions to men.

1. The best way to win a friend is to avoid
 - (A) irony in speech
 - (B) pomposity in speech
 - (C) verbosity in speech
 - (D) ambiguity in speech
2. While talking to an uneducated person, we should use
 - (A) ordinary speech
 - (B) his vocabulary
 - (C) simple words
 - (D) polite language
3. If one used the same style of language with everyone, one would sound
 - (A) flat
4. A 'slip of the tongue' means something said
 - (A) wrongly by choice
 - (B) unintentionally
 - (C) without giving proper thought
 - (D) to hurt another person
5. Speech can be curse, because it can
 - (A) hurt others
 - (B) lead to carelessness
 - (C) create misunderstanding
 - (D) reveal our intentions

1. D 2. B 3. C 4. C 5. C

Read the following passage carefully and answer questions:

Mahatma Gandhi believed that industrialisation was no answer to the problems that plague the mass of India's poor and that villagers should be taught to be self-sufficient in food, weave their own cloth from cotton and eschew the glittering prizes that the 20th century so temptingly offers. Such an idyllic and rural paradise did not appear to those who inherited the reins of political power.

1. The meaning of 'glittering prizes that the 20th century so temptingly offers' is
 - (A) pursuit of a commercialised material culture
 - (B) replacement of rural by urban interests
 - (C) complete removal of poverty
 - (D) absence of violence and corruption
2. The basis of 'an idyllic and rural paradise' is
 - (A) rapid industrialisation of villages
 - (B) self sufficiency in food clothes and simplicity of the lifestyle
 - (C) bringing to the villages the glittering prizes of the 20th century
 - (D) supporting those holdings powerful political positions
3. Which one of the following best illustrates

1. C 2. B

- the relationship between the phrases: (i) 'eschew the glittering prizes' and (ii) 'idyllic and rural paradise'?
- (A) unless you do (i), you cannot have (ii)
 (B) (i) and (ii) are identical in meaning
 (C) first of all you must have (ii) in order to do (i)
 (D) the meaning of (i) is directly opposite to (ii)
4. Mahatma Gandhi's views opposed industrialisation of villages because
- (A) it would help the poor and not the rich
 (B) it would take away the skill of the villagers
 (C) it would affect the culture of the Indians
 (D) it would undermine self-sufficiency and destroy the beauty of life of the villagers
5. Mahatma Gandhi's dream of 'an idyllic and rural paradise' was not shared by
- (A) those who did not believe in the industrialisation of the country
 (B) those who called him the Father of Nation
 (C) those who inherited political powers after independence
 (D) those who believed that villages should be self-sufficient in food and cloth

3. D 4. B 5. A

Read the following passage carefully and answer questions:

Organisations are institutions in which members compete for status and power. They compete for resource of the organisation, for example finance to expand their own departments, for career advancement and for power to control the activities of others. In pursuit of these aims, groups are formed and sectional interests emerge. As a result, policy decisions may serve the ends of political and career systems rather than those of the concern. In this way, the goals of the organisation may be displaced in favour of sectional interests and individual ambition. These preoccupations sometimes prevent the emergence of organic systems. Many of the electronic firms in the study had recently created research and development departments employing highly qualified and well paid scientists and technicians. Their high pay and expert knowledge were sometimes seen as a threat to the established order of rank, power and privilege. Many senior managers had little knowledge of technicality and possibilities of new developments and electronics. Some felt that close cooperation with the experts in an organic system would reveal their ignorance and show their experience was now redundant.

1. The theme of the passage is
- (A) groupism in organizations
 (B) individual ambitions in organizations
 (C) frustration of senior managers
 (D) emergence of sectional interests in organizations
- (A) growth with the help of expert knowledge
 (B) growth with input from science and technology
 (C) steady all around development
 (D) natural and unimpeded growth
2. "Organic system" as related to the organization implies its
3. Policy decision in organization would involve

1. D 2. B

- (A) cooperation at all levels in the organization
 (B) modernization of the organization
 (C) attracting highly qualified personnel
 (D) keeping in view the larger objectives of the organizations
4. The author makes out a case for
 (A) organic system
 (B) Research and Development in organizations
 (C) an understanding between senior and middle level executives
 (D) a refresher course for senior managers
5. The author tends to the senior managers as
 (A) ignorant and incompetent
 (B) a little out of step with their work environment
 (C) jealous of their younger colleagues
 (D) robbed of their rank, power and privilege

3. C 4. A 5. A

Read the following passage carefully and answer questions:

Corduroy is fast establishing itself at this year's fabric, While the ribbed cotton itself provides utilitarian tenacity, texture and warmth. It is the fabric's long held associations may provide a hint to its current revival as a fabric for all seasons. It is Corduroy's link with the good breeding and country living that made it an essential ingredient in the gentleman's wardrobe along with Wellington boots and decent wool. It combines the comfortable nonsense appeal of cotton with the perfectly correct luxury finish of velvet. Corduroy has the ability to appear either supremely sophisticated or rough and ready.

1. Which one of the following best describes the passage?
 (A) It tells us about the usefulness of corduroy
 (B) It talks us about the virtues of corduroy
 (C) It persuades us to buy corduroy
 (D) It makes us understand the everlasting appeal of corduroy to the young
2. According to the author, the special quality of corduroy is that
 (A) it needs no ironing
 (B) it combines the virtues of both cotton and velvet
 (C) it contains the correct mixture of cotton and velvet
 (D) both the rich and that not-so rich can afford to buy it
3. Corduroy is a fabric for all seasons because
 (A) it can be worn not only in winter but also in summer
 (B) of its peculiar texture and warmth
 (C) it is made popular by catchy advertisements
 (D) gentleman can wear it in both formal and informal occasions
4. According to the passage, corduroy is essential in a gentleman's wardrobe because
 (A) it goes with Wellington boots
 (B) its current revival gives a taste of the latest fashion

1. B 2. D 3. A 4. C

- (C) it has its associations with good upbringing and a conservative lifestyle
 (D) it can be an idea alternative to the woollen clothes
5. When the writer refers to corduroy's 'utilitarian tenacity' he means that
- (A) though expensive, it is economic in the long run
 (B) it is useful because it is durable
 (C) it has remained fashionable over several years
 (D) it does not need frequent washing

5. B



Read the following passage carefully and answer questions:

The enjoyment of physical possession of things would seem to be one of the prerogatives of wealth which has been little impaired. Presumably nothing has happened to keep the man who can afford them from enjoying his Rembrandt and his homegrown orchids. But enjoyment of things has always been associated with the third prerogative of wealth which is the distinct it confers. In a world where nearly everyone was poor, the distinction was very great. It was the natural consequence of rarity. In England it is widely agreed, the ducal families are not uniformly superior. There is a roughly normal incidence of intelligence and stupidity, good taste and bad taste, morality, immorality. But very few people are dukes and duchesses, although the later have become rather more frequent with modern easing of divorce laws. As a result, even though they may be intrinsically unexceptional they are regarded with some awe. So it has long have been with the rich. Were dukes numerous their position would deteriorate. As the rich have become more numerous, they have inevitably becomes a debased currency.

- The distinction conferred by wealth
 - was unfair to the poor
 - was unlikely to spread throughout the world
 - was very great when there were many rich people
 - was very great when there were few rich people
- The enjoyment of the physical possession of things
 - is one of the privileges of wealth which has not been changed
 - is one of the privileges of wealth which should be curtailed
 - has little to do with the prerogatives of wealth
 - is a prerogative of wealth which cannot be disputed
- Ducal families in England
 - are generally agreed to be fairly common
 - are generally agreed to be fairly superior
 - are superior because they are rich
 - are generally agreed not to be always better than others
- There are more duchesses now because
 - it is easier for dukes to divorce and remarry
 - dukes are more immoral than they used to be
 - there position has deteriorated
 - they are debased
- Among the ducal families
 - there is great deal of immortality

1. D 2. A 3. D 4. A 5. B

(B) there is a fairly even spread of virtues and vices

(C) there is a great deal of bad taste

(D) there is either great intelligence or great stupidity

Read the following passage carefully and answer questions:

Nehru's was a many sided personality. He enjoyed reading and writing books as much as he enjoyed fighting political and social evils or resisting tyranny. In him, the scientist and the humanist were held in perfect balance. While he kept looking at special problems from a scientific standpoint. He never forgot that we should nourish the total man. As a scientist, he refused to believe in a benevolent power interested in men's affairs. but, as a self proclaimed non-believer, he loved affirming his faith in life and the beauty of nature. Children he adored. Unlike Wordsworth, he did not see him trailing clouds of glory from the recent sojourn in heaven. He saw them as a blossoms of promise and renewal, the only hope for mankind.

1. Nehru thought that children
 - (A) were trailing clouds of glory
 - (B) held promise for a better future
 - (C) were like flowers to be loved and admired
 - (D) held no hope for mankind
2. Nehru enjoyed
 - (A) reading and writing books
 - (B) fighting political and social evils
 - (C) resisting tyranny
 - (D) doing all the above and much more
3. Which of the statements reflects Nehru point of view?
 - (A) Humanism is more important than science
 - (B) Science is supreme and humanism is subordinate to it
4. In this passage, 'a benevolent power interested in men's affairs' means
 - (A) a supernatural power of god
 - (B) beauty of nature
 - (C) the spirit of science
 - (D) the total man
5. A 'many-side personality' means
 - (A) a complex personality
 - (B) a secretive person
 - (C) a person having varied interests
 - (D) a capable person

1. B 2. D 3. C 4. A 5. C

Read the following passage carefully and answer questions:

Until the end of his first year at school, Cyril retained many of the pleasures and pursuits he had brought with him from home, and he kept an old interest in butterflies and fossils. His grandmother had presented him with a fine bird's eggs cabinet, but he could never bring himself to risk in climbing trees. Once or twice he dissected dead birds from sheer determi-

nation to overcome his horror of the operation. Probably it was his envy of those physically unlike himself that brought on a phase during which he drew massive athletes with thick necks and square shoulders. Again he was pitying himself for what he could never be.

1. The reason Why Cyril made drawings of athletes was that
 - (A) though he admired them, he lacked a fine physique himself
 - (B) he loved violent exercises
 - (C) athletics was a passion with him
 - (D) he had to complete an assignment
2. Cyril dissected dead birds to
 - (A) see if he would like to become a doctor
 - (B) please his grandmother
 - (C) satisfy his curiosity
 - (D) overcome the fear of act
3. Until the end of first year, Cyril retained his interest in
 - (A) bird's eggs
 - (B) butterflies and fossils
 - (C) dissecting bird's
 - (D) drawing pictures of athletes
4. Cyril did not want to climb trees because he
 - (A) loved to play on the ground
 - (B) was scared of falling down
 - (C) disliked trees
 - (D) thought it was childish
5. Cyril's early schooling was in some ways like home life because
 - (A) he had all his old friends with him
 - (B) the food and the climate were same as at home
 - (C) he kept an doing what gave joy and recreation at home
 - (D) his family visited him often

1. A 2. D 3. B 4. B 5. C

Read the following passage carefully and answer questions:

The assault on the purity of the environment is the price that we pay for many of the benefits of modern technology. For the advantage of automotive transportation we pay a price in smog-induced diseases; for the powerful effects of new insecticides, we pay a price in dwindling wildlife and disturbances in the relation of living things and their surroundings; for nuclear power, we risk the biological hazards of radiation. By increasing agricultural production with fertilizers, we worsen water population. The highly developed nations of the world are not only the immediate beneficiaries of the good that technology can do, that are also the first victims of environmental diseases that technology breeds. In the past, the environmental effects which accompanied technological progress were restricted to a small and relatively short time. The new hazards neither local nor brief. Modern air pollution covers vast areas of continents: Radioactive fallout from the nuclear explosion is worldwide. Radioactive pollutants now on the earth surface will be found there for generations, and in case of Carbon-14, for thousands of years.

1. The widespread use of insecticides has
 - (A) reduced the number of wild animals
 - (B) caused imbalance in the relationship between living beings and their environment
 - (C) eliminated diseases by killing mosquitoes and flies
 - (D) caused biological hazards
2. The passage emphasis that modern technology
 - (A) is an unmixed blessing
 - (B) has caused serious hazards to life
 - (C) has produced powerful chemicals
 - (D) has benefited highly developed nations
3. According to the passage the increasing use of fertilisers is responsible for
 - (A) abundance of food
 - (B) disturbance in the ecological system
 - (C) water pollution
 - (D) increase in diseases
4. The harmful effects of modern technology are
 - (A) widespread but short-lived
 - (B) widespread and long-lasting
 - (C) limited and long-lasting
 - (D) severe but short-lived
5. Radioactive pollutants
 - (A) are limited in their effect
 - (B) will infect the atmosphere for thousands of years
 - (C) will be on the surface of earth for a very long time
 - (D) will dissipate in short span of time

1. B 2. B 3. C 4. B 5. C

Read the following passage carefully and answer questions:

There was a marked difference of quality between the personages who haunted near bridge of brick and the personages who haunted the far one of stone. Those of lowest character preferred the former, adjoining the town; they did not mind the glare of the public eye. they had been of no account during their successes; and though they might feel dispirited, they had no sense of shame in their ruin. Instead of sighing at their adversaries they spat, and instead of saying the iron had entered into their souls they said they were down in their luck. The miserable's who would pause on the remoter bridge of a politer stamp persons who did not know how to get rid of the weary time. The eyes of his species were mostly directed over the parapet upon the running water below. While one on the town ward bridge did not mind who saw him so, and kept his back to parapet to survey the passer-by, one on this never faced the road, never turned his head at coming foot-steps, but, sensitive on his own condition, watched the current whenever a stranger approached, as if some strange fish interested him, though every finned thing had been poached out of the rivers years before.

1. In this passage the author is trying to
 - (A) explain the difference between the construction of the two bridges
 - (B) describe the way different sections of people like to dress
 - (C) explain the variety of ways in which strangers can be treated
 - (D) describe how people of different classes behaved when unhappy
2. People belonging to lower strata in their

1. D 2. C

- moments of distress
- (A) remembered the days of glory
 (B) dressed shabbily to earn sympathy
 (C) visited the brick made bridge
 (D) felt ashamed of their failures
3. The attitude of lowly and genteel towards strangers was
- (A) virtually the same
 (B) entirely different
 (C) completely indifferent
 (D) virulently hostile
4. The bridge of stone was frequented by
- (A) all the sections of society
 (B) those fond of fishing
 (C) the sophisticated but luckless
 (D) none of the above
5. The two bridges were known
- (A) for their similar design
 (B) for being equidistant from town
 (C) for being haunted places
 (D) for attracting dejected people to them

3. B 4. C 5. D

Read the following passage carefully and answer questions:

Nationalism, of course, is a curious phenomenon which at a certain stage in a country's history gives life, growth and unity but, at the same time, it has a tendency to limit one, because one thinks of one's country as something different from the rest of world. One's perceptive changes and one is continuously thinking of one's own struggles and virtues and failing to the exclusion of other thoughts. The result is that the same nationalism which is the symbol of growth for a people becomes a symbol of the cessation of that growth in mind. Nationalism, when it becomes successful sometimes goes on spreading in an aggressive way and becomes a danger internationally. Whatever line of thought you follow, you arrive at the conclusion that some kind of balance must be found. Otherwise something that was good can turn into evil. Culture, which is essentially good become not only static but aggressive and something that breeds conflict and hatred when looked at from a wrong point of view. How are you find a balance, I don't know. Apart from the political and economic problems of the age, perhaps, that is the greatest problem today because behind it there is tremendous search for something which it cannot found. We turn to economic theories because they have an undoubted importance. It is folly to talk of culture or even of god. When human beings starve and die. Before one can talk about anything else one must provide the normal essentials of life to human beings. That is where economies comes in. Human beings today are not in mood to tolerate this suffering and starvation and inequality when they see that the burden is not equally shared. Others profit while they only bear the burden.

1. The greatest problem in the middle of the passage refers to the question
- (A) how to mitigate hardship to human beings
 (B) how to contain the dangers of aggressive nationalism.
 (C) how to share the economic burden
 (D) how to curb international hatred
2. Negative national feeling can make a nation
- (A) selfish
 (B) self-centred

1. B 2. B

- (C) indifferent
(D) dangerous
3. Suitable title for this passage can be
(A) Nationalism breeds unity
(B) Nationalism - a road to world unity
(C) Nationalism is not enough
(D) Nationalism and national problems
4. 'Others' in the last sentence refers to
(A) other people
(B) other nations
(C) other communities
(D) other neighbours
5. Aggressive nationalism
(A) breeds threat to international relations
(B) leads to stunted growth
(C) endangers national unity
(D) isolates a country

3. C 4. A 5. D

Read the following passage carefully and answer questions:

Detective glories tend to glorify crime. Murderers, gangsters and crooks all kinds are described as tough, cunning and courageous individuals who know how to take care of themselves and how to get what they want. In James McCain's *The Postman Always Rings twice*, for instance the villain is much more an impressive character than his victim. He is casual brave smart and successful with women. It is true that he finally gets caught. But he is punished for a crime that he did not commit, so that his conviction is hardly a triumph of justice. Besides, looking back over the exciting life of the criminal, the reader might conclude that it was worth the risk.

1. The passage mention James McCain
(A) as an author of detective stories
(B) as brave, smart, and successful with women
(C) as tough cunning and courageous
(D) as being more impressive than others
2. Murderers, gangsters and crooks referred to in the passage given above
(A) always manage to get away
(B) are often glorified in detective stories
(C) are wiser than their victims
(D) know how to escape from law
3. According to this passage, a criminal in a detective story generally gets caught
(A) for the crimes he has committed
(B) because of his careless mistakes
(C) because the police is smarter than the criminals
(D) for the crimes he has not committed
4. According to the passage, the life of a criminal
(A) is exciting
(B) is hardly worth the risk
(C) is seldom presented in the right perspective
(D) ends in a triumph of justice
5. According to be passage given above, detective stories
(A) make interesting reading
(B) are hardly worth reading
(C) encourage readers to content crimes
(D) tend to create wrong notion about crimes and punishment

1. A 2. B 3. D 4. C 5. D

Read the following passage carefully and answer questions:

There is modicum of truth in the assertion that "a working knowledge of ancient history is necessary to the intelligent interpretation of current events". But the sage who uttered these words of wisdom might well have added something on the benefits of studying, particularly, the famous battles of history for the lessons they contain for those of us who lead or aspire to leadership. Such a study will reveal certain qualities and attributes which enabled the winners to win and certain deficiencies which caused the losers to lose. And the student will see that the same patterns recur consistently, again and again, throughout the centuries.

1. A person who aspires to lead could learn from the history of battles
 - (A) what led the previous leaders win a battle
 - (B) what made them lose a battle
 - (C) the qualities and deficiencies of commanders of these battles
 - (D) the strategies that they have evolved in course of these battles
2. In this context, "intelligent interpretation of current event" means
 - (A) rational explanation of events
 - (B) appropriate understanding of events
 - (C) intellectual outlook on events
 - (D) skilful interpretation of events
3. The expression "more than a modicum of truth" means
 - (A) some truth
 - (B) much truth
 - (C) more than a small amount of truth
 - (D) nothing but truth
4. According to the writer, a study of famous battles of history would
 - (A) be beneficial to wise men
 - (B) provide food to modern leaders for reflection
 - (C) be more useful than a general knowledge of ancient history
 - (D) help us understand the art of modern warfare
5. A knowledge of history is necessary to interpret current problems because
 - (A) they have roots in the past
 - (B) they can be contrasted with the past events
 - (C) they may be repetitions of past events
 - (D) only then they can be put in a proper context

1. C 2. A 3. C 4. B 5. C

Read the following passage carefully and answer questions:

The casual horrors and real disasters are thrown at newspaper reader without discrimination. In the contemporary arrangements for circulating the news, an important element, evaluation is always weak and often wanting entirely. There is no point anywhere along the line somewhere someone put his foot down for certain and says, "This is important and that does not amount to row of beans; deserves no ones attention, and should travel the wires


no farther". The junk is dressed up to look as meaningful as the real news.

1. Evaluation of news would imply
 - (A) less dependence on modern systems of communication
 - (B) more careful analysis of each news story and its value
 - (C) separating beans from junk
 - (D) discriminating horrors from disasters
2. The writer of the above passage
 - (A) seems to be happy with the contemporary arrangements for circulating news
 - (B) is shocked by the casual stories about horrors and disasters reported in the newspapers
 - (C) wants better evaluation of news before publication
 - (D) wants to put his foot down on news stories
3. In the above passage, the phrase "amounts to a row of beans" means that the news
 - (A) is weak and often wanting entirely
 - (B) deserves no one's attention
 - (C) should travel the wires
 - (D) is junk dressed up as real news
4. Newspapers lack a sense of discrimination because
 - (A) they do not separate the real news from mere sensationalism
 - (B) they have to accept whatever is received on the wires
 - (C) limited manpower makes serious evolution impossible
 - (D) people don't see the difference between 'junk' and 'real' news
5. The passage implies that
 - (A) there has to be censorship on newspapers
 - (B) there is no point in having censorship
 - (C) newspapers always dress up junk to look meaningful
 - (D) one has to be strict in selecting news items

1. B 2. C 3. B 4. A 5. C

Read the following passage carefully and answer questions:

The world dismisses curiosity by calling it idle or mere idle curiosity even though curious persons are seldom idle. Parents do their best to extinguish curiosity in their children because it makes life difficult to be faced everyday with a string of unanswerable questions about what makes fire hot or why grass grows. Children whose curiosity survives parental discipline are invited to join our university. With the university, they go on asking their questions and trying to find the answers. In the eyes of a scholar, that is what a university for. some of the questions which the scholars ask seem to the world to be scarcely worth asking, let alone answering. they asked questions too minute and specialised for you and me to understand without years of explanation. If the world inquires of one of them why he wants to know the answer to a particular question he may say especially if he is a scientist, that the answer will in some obscure way make possible a new machine or weapon or gadget. He talks that way



because he knows that the world understands and respects utility. But to you who are now part of the university, he will say that he wants to know the answer simply because he does not know it, the way the mountain climber wants to climb a mountain, simply because it is there. Similarly a historian asked by an outsider why he studies history may come out with the argument that he has learnt to respect to report on such occasions, something about knowledge of the past making it possible to understand the present and mould the future. But if you really want to know why a historian studies the past, the answer is much simpler, something happened and he would like to know what. All this does not mean that the answers which scholars find to their enormous consequences but these seldom form the reason for asking the question or pursuing the answers. It is true that scholars can be put to work answering questions for sake of the consequences as thousands are working now, for example, in search of a cure for cancer. But this is not the primary scholars. For the consequences are usually subordinate to the satisfaction of curiosity.

1. Children whose curiosity survives parental discipline means
 - (A) children retaining their curiosity in spite of being discouraged by their parents
 - (B) children pursuing their mental curiosity
 - (C) children's curiosity subdued due to parents intervention
 - (D) children being disciplined by their parents
2. According to their passage, the children make life difficult for their parents
 - (A) by their ceaseless curiosity
 - (B) by unceasing bombardment of questions
 - (C) by asking irrelevant questions
 - (D) by posing profound questions
3. The common people consider some of the questions that the scholars ask unimportant
 - (A) as they are too lazy and idle
 - (B) as they are too modest
 - (C) as it's beyond their comprehension
 - (D) as it is considered a waste of time
4. A historian really studies the past
 - (A) to comprehend the present and to reconstruct the future
 - (B) to explain the present and plan the future
 - (C) to understand the present and make fortune
 - (D) to understand the present and mould the future
5. According to their passage, parents do their best to discourage curiosity in their children
 - (A) because they have no time
 - (B) because they have no patience to answer them
 - (C) because they feel that their children ask stupid questions continuously
 - (D) because they are unable to answer all the questions

1. A 2. A 3. C 4. D 5. D


Read the following passage carefully and answer questions:

He saw nothing, he had no knife or sharp instrument, the grating of the window was of iron and he had too often assured himself of its solidity. His furniture consisted of a bed, a chair, a table, a pail, and a jug. The bed had iron clamps, but they were screwed to the wall and it would have required a screwdriver to take them off. Dantes had but one resource which was to break the jug and with one of the sharp fragments attack the wall. He left the jug fall on the floor and it broke in pieces. He concealed two or three of the sharpest fragments in his bed, leaving the rest on the floor. The breaking of the jug was too natural an accident to excite suspicion, and next morning gaoler went grumblingly to fetch another, without giving himself the trouble to remove the fragments. Dantes heard joyfully the key grate in the lock as guard departed.

1. Dantes was in
 - (A) a hostel
 - (B) a dining room
 - (C) an army barracks
 - (D) a prison
2. Dantes heard the key grate in the lock when the
 - (A) cell door was shut
 - (B) cell door was opened
 - (C) storeroom was opened
 - (D) storeroom was shut
3. The guard left the fragments because he
 - (A) didn't notice them
 - (B) wished to punish Dantes
 - (C) was too lazy to bother
 - (D) wanted Dantes to clear up
4. Dantes probably broke the jug
 - (A) in the morning
 - (B) during the night
 - (C) after breakfast
 - (D) at exactly 3pm
5. Dantes was planning to
 - (A) carve his name
 - (B) make his escape
 - (C) tease the guard
 - (D) call for breakfast

1. D 2. D 3. C 4. B 5. B


Read the following passage carefully and answer questions:

The greatest thing this age can be proud of is the birth of man in the consciousness of men. In his drunken orgies of power and national pride man may flout and jeer at it. when organised national selfishness, racial antipathy and commercial self seeking begin to display their ugly deformities in all their nakedness, then comes the time for man to know that his salvation is not in political organisations and extended trade relations, not in any mechanical re-arrangement of social system but in a deeper transformation of life, in the liberation of consciousness in love, in the realisation of God in man

1. In this passage, the phrase "God in man" implies
 - (A) God having assumed the shape of man
 - (B) neither fully godly nor fully human
 - (C) man being transformed into God
 - (D) the divine qualities in man
2. The author uses the expression 'ugly deformities' to show his indignation at
 - (A) political organisations
 - (B) the liberation of human consciousness
 - (C) selfishness and materialism of the people
 - (D) the drunken orgies of power
3. According to the author, "salvation" of human beings lies in the
 - (A) extended trade relations
 - (B) spiritual transformation of life
 - (C) orgy of national pride
 - (D) wholehearted participation in political organisations
4. In the phrase "the birth of Man in the consciousness of men", AMn stands for
 - (A) power and arrogance
 - (B) egocentricity
 - (C) noble human qualities
 - (D) an idealistic notion of the human self
5. People jeer at the 'birth of Man' in the human consciousness when they
 - (A) begin to think of themselves as God
 - (B) become power hungry
 - (C) restructure the social system
 - (D) become mentally deranged

1. D 2. C 3. B 4. D 5. B

Read the following passage carefully and answer questions:

Modern economies does not differentiate between renewable and non-renewable materials, as its method is to measure everything by means of a money price. Thus, taking various alternatives fuels, like coal, oil, wood or water power: the only difference between them recognised by modern economics is relative cost per equivalent unit. The cheapest is automatically the one to be preferred, as to do otherwise would be irrational and 'uneconomic'. From a Buddhist point of view of course this will not do, the essential difference between non-renewable fuels like coal and oil on the one hand and renewable fuels like wood and water power on the other cannot be simply overlooked. Non-renewable goods must be used only if they are indispensable, and then only with the greatest care and the highest concern for conservation. To use them carelessly or extravagantly is an act of violence, and while complete non-violence may not be possible on earth, it is nonetheless the duty of man to aim at deal of non-violence in all he does.

1. Which of the following statements may be assumed to be false from the information in the passage?
2. The writer finds the attitude of modern economists towards natural resources to be uneconomic.
3. Buddhist economists are in different to the cost of fuels
4. To use oil on non-essentials is contrary to the Buddhist economic philosophy
5. To fell a tree is an act of violence not permitted by Buddhist economists Of the

5. B

- above statements
- (A) 1 and 2 are false
 (B) 1, 2 and 4 are false
 (C) 3 and 4 are false
 (D) All 1, 2, 3, and 4 are false
6. According to the passage, Buddhist economists are not in favour of
- (A) measuring everything in terms of money
 (B) using non-renewable sources
 (C) economic development
 (D) applying non-violence to every sphere of life
7. In this passage the author is trying to
- (A) differentiate between renewable and non-renewable materials
 (B) show that the modern economist is only concerned with costs
 (C) underline the need for conserving natural resources
 (D) different between two economic philosophies
8. Fill in the blanks with the appropriate pair of phrases: The passage suggests that while a modern economist, considers it uneconomic to use form of fuel, a Buddhist economist considers it uneconomic to use form a fuel
- (A) a cheap, a renewable
 (B) an irrational, an essential
 (C) an expensive, an non-renewable
 (D) a rational, an unessential
9. The Buddhist economist's attitude implies that fuels like coal and oil must be used only if
- (A) there is a plentiful supply
 (B) wood and water can be dispensed with
 (C) the relative cost of each is than of wood and water
 (D) there is no alternative fuel available

6. B 7. D 8. C 9. D

Read the following passage carefully and answer questions:

Sometimes we went off the road and on a path through the pine forest. The floor of the forest was soft to walk on; the frost did not happen it as it did the road. But we did not mind the hardness of the road because we had nails in the soles and heels nails bit on the frozen ruts and with nailed boots it was good walking on the road and invigorating. It was lovely walking in the woods.

1. 'Frozen ruts' means
- (A) very cold roads
 (B) wheel marks in which frost had become hard
 (C) the road covered with frost
 (D) hard roads covered with snow
2. The floor of the forest was soft because
- (A) the forest did not harden it on account of trees
 (B) the travellers were wearing boots
 (C) the shoes had nails on their sole and heel
 (D) they enjoyed walking in the woods
3. We did not mind the hardness of road because
- (A) we had nailed boots on
 (B) it was good walking on the road
 (C) the walk was refreshing

1. C 2. A 3. A

- (D) the nails bit on the frozen roads
4. We found great joy on account of
- (A) wearing nailed boots
- (B) the good long walk on the road
- (C) walking occasionally through the forest
- (D) walking on frost with nailed boots on
5. Sometimes we walked through the pine forest as
- (A) the path was unaffected by the frost
- (B) it was good walking with nails in the boots
- (C) the walks was invigorating
- (D) it was sheer joy to walk in the forest

4. D 5. A

Read the following passage carefully and answer questions:

Many sociologists have argued that there is functional relationship between education and economic system. They point to the fact that mass formal education began in industrial society. They note that the expansion of the economies of industrial societies is accompanied by a corresponding expansion of their educational systems. they explain this correspondance in terms of the needs of industry for skilled and trained manpower, needs which are met by the educational system. Thus, the provision of mass elementary education in Britain in 1870 can be seen as a response to the needs of industry for a literate and numerate workforce at a time when industrial processes were becoming more complex and the demand for technical skills was steadily growing.

1. The industry needs a literate work-force because
- (A) its expansion needs sound learning
- (B) it relies heavily on expertise
- (C) it promotes a competitive spirit
- (D) its operations need intricate technical knowledge
2. The author argues that
- (A) formal education can be traced to industrial society
- (B) industrial society is responsible for expansion of education at mass level
- (C) industrial society gave rise to vocational education
- (D) industrial society changed the pattern of education
3. The observation of the Sociologists are based on a study of
- (A) the statistical data available in a historical context
- (B) economic system of the 19th century
- (C) the correlation between industry and education in a historical context
- (D) growth of industry 19th century
4. The Sociologists referred to it in the passage say that the relationship between industry and elementary education was one
- (A) based on mutual need
- (B) based entirely on the need of the industry
- (C) based entirely on economic need
- (D) based on some inexplicable historical forces
5. By 'functional relationship' is meant
- (A) a short-term relationship
- (B) practical and utilitarian relationship
- (C) temporary arrangement
- (D) close and unbreakable relationship

1. D 2. A 3. D 4. B 5. B

Read the following passage carefully and answer questions:

The Indian middle class consist of so many strata that it defies categorisation under a single term class, which would imply a considerable degree of homogeneity. Yet two paradoxical features characterise its conduct fairly uniformly; extensive practice and intensive abhorrence of corruption. In the several recent surveys of popular perceptions of corruptions, politicians of course invariably and understandably top the list, closely followed by bureaucrats, policemen, lawyers, businessmen and others. The quintessential middle class. If teachers do not figure high on this priority list, it is not for lack of trying, but for lack of opportunities. Over the years, the sense of shock over acts of corruption in the middle class has witnessed a steady decline, as its ambitions for a better material life have soared but the resources for meeting such ambitions have not kept pace. What is fascinating, however, is the intense yearning of this class for a clean corruptionless politics and society, a yearning that has again and again surfaced with any figure public or obscure, focus on his mission of eradicating corruption. Even the repeated failure of this promise on virtually every man's part has not subjected it to the law of diminishing returns.

1. The intense Middle Class intensely yearns for
 - (A) better material resources
 - (B) extensive practice of corruption
 - (C) clean honest society
 - (D) law of increasing returns
2. Teachers are not high on the list of corruption because they do not have
 - (A) courage
 - (B) opportunities
 - (C) support
 - (D) ambition
3. The Indian Middle class is
 - (A) defiant
 - (B) mysterious
 - (C) homogeneous
 - (D) stratified
4. Who figure on top of the list of corruption?
 - (A) businessmen
 - (B) lawyers
 - (C) politicians
 - (D) policemen
5. This yearning, over the years, has
 - (A) persisted
 - (B) soared
 - (C) declined
 - (D) disappeared

1. C 2. B 3. C 4. C 5. A

Read the following passage carefully and answer questions:

Piccadilly Circus was full of loneliness. It seethes and echoes with it. To live near it. Looking down on it is a discomfiting exercise. You can't feel the pulse of London here, though people expect to. To Londoners it is a maddening obstruction between one place and another, and few voluntarily linger there. The only locals are those who live off the lingerers; the

lingers are primarily sightseers, with a fair sprinkling of people hoping to draw attention to themselves - both typically from the provinces. They have come to see the heart of London and expect to see spectacle, glamour and vice.

1. Piccadilly circus is
 - (A) the name of a circus company
 - (B) a lonely and resounding old building
 - (C) a centrally located area in London
 - (D) a huge heap of ruins
2. The passage implies that
 - (A) some Londoners love to spend their time near the Piccadilly circus
 - (B) no Londoner wants to be in Piccadilly circus
 - (C) Piccadilly circus is a hazardous place
 - (D) Piccadilly circus is place of vice
3. According to this passage, people from outside London go to Piccadilly circus because it is
 - (A) a historical place
 - (B) full of glamour
 - (C) full of exciting people
 - (D) the pulse of London
4. For those who live near Piccadilly circus, it is
 - (A) a very noisy place
 - (B) crowded with people
 - (C) an obstruction to traffic
 - (D) an awkward structure
5. The lingerers found in Piccadilly circus are mainly
 - (A) the citizens of London
 - (B) sightseers from provincial areas of Britain
 - (C) people who want to show off
 - (D) local idlers

1. C 2. C 3. B 4. C 5. B

Read the following passage carefully and answer questions:

Today perhaps your only association with the word 'polio' is the Sabin Oral Vaccine that protects children from the disease. Fifty five years ago this was not so. The dreaded disease, which mainly affects the brain and spinal cord, causing stiffening and weakening of muscles, crippling and paralysis - which is why I am in a wheelchair today. If somebody had predicted, when I was born, that this would happen to me, no one would have believed it. I was seventh child in a family of four pairs of brothers and sisters, with huge 23 year gap between the first and last. I was so fair and brown haired that I looked more like a foreigner than a Dawood Bohri. I was also considered to be the healthiest of the brood.

1. In his childhood, the narrator was
 - (A) a weakling
 - (B) very healthy
 - (C) tall and slim
 - (D) short and stout
2. In this passage, the word 'brood' refers to
 - (A) polio victims
 - (B) foreign children
 - (C) children in the family

1. B 2. C

- (D) Indian Children
3. The narrator was the seventh child in a family of
- (A) 8 children
(B) 16 children
(C) 23 children
(D) 4 children
4. In this passage, the narrator is a patient of
- (A) heart disease
(B) polio
(C) paralysis
(D) nervous weakness
5. In his childhood, the narrator looked "more like a foreigner than a Dawood Bohri" This was because he was
- (A) a foreign child
(B) a very healthy boy
(C) tall and smart
(D) fair and brown haired
3. A 4. B 5. D

Read the following passage carefully and answer questions:

Soft bodied animals like caterpillars often fall a prey to voracious hunters like birds or reptiles. Despite having no means to 'actively' defend themselves, with weapons like claws or jaws, they have nevertheless, evolved other equally effective deterrents. A particular species of the caterpillar lives at an altitude over 2.500 metres in the Himalayas. It uses prominent colour to inform would be predators of its inedibility. In the event that an inexperienced or adventurous bird did eat the caterpillar, it would probably vomit it soon after, and subsequently desist from attacking similar species in future. Though this would do the unfortunate victim no good, the species benefits. A rare example of the martyr among animals.

1. The expression "others equally effective deterrents" mean
- (A) preventive weapons which have equal effect of others
(B) mechanism which scares everyone equally well
(C) preventive equipment which it is as effective as something that has been already mentioned in the passage
(D) deterrents that are as powerful as those the caterpillars have
2. Experienced birds do not attack the Himalayan caterpillars because they are
- (A) repulsive
(B) very aggressive
(C) inedible
(D) diseased
3. The Himalayan caterpillar uses prominent colours to
- (A) warn the predator
(B) attack the predator
(C) reveal itself
(D) defend itself
4. Caterpillars cannot defend themselves because
- (A) are passive animals
(B) are lazy
(C) cannot acquire weapons
(D) have no claws or jaws
5. In the context of this passage, a martyr is one who dies
- (A) without putting up resistance
(B) without any gain to oneself

(C) while defending ones homeland

(D) to save others

Read the following passage carefully and answer questions:

Courage is not only the basis of virtue; it is its expression. faith, hope, charity and all the rest don't become virtues until it takes courage to exercise them. There are roughly two types of courage. the first an emotional state which urges a man to risk injury or death, is physical courage. The second, more reasoning attitude which enables him to take coolly his career, happiness, his whole future or his judgement of what he thinks either right or worthwhile, is moral courage. I have known many men, who had marked physical courage, but lacked moral courage. Some of them were in high places, but they failed to be great in themselves because they lacked moral courage. On the other hand I have seen men who undoubtedly possessed moral courage but were very cautious about taking physical risks. But I have never met a man with moral courage who couldn't, when it was really necessary, face a situation boldly.

1. A man of courage is
 - (A) cunning
 - (B) intelligent
 - (C) curious
 - (D) careful
2. Physical courage is an expression of
 - (A) emotions
 - (B) deliberation
 - (C) uncertainty
 - (D) defiance
3. A man with moral courage can
 - (A) defy his enemies
 - (B) overcome all difficulties
 - (C) face a situation boldly
 - (D) be very pragmatic
4. People with physical courage of ten lack
 - (A) mental balance
 - (B) capacity for reasoning
 - (C) emotional stability
 - (D) will to fight
5. All virtues become meaningful because of
 - (A) faith
 - (B) charity
 - (C) courage
 - (D) hope

1. D 2. A 3. C 4. B 5. C

Read the following passage carefully and answer questions:

The strength of the electronics industry in Japan is the Japanese ability to organise production and marketing rather than their achievements in original research. The British are generally recognised as a far more inventive collection of individuals, but never seem able to exploit what they invent. There are many examples, from the TSR Z hovercraft, high speed train and Sinclair scooter to the Triumph, BSA and Norton Motorcycle which all prove this sad rule. The Japanese were able to exploits their strengths in marketing and development many years ago, and their success was at first either not understood in the West or was

dismissed as something which could have been produced only at their low price. They were sold because they were cheap copies of other people's ideas churned out of a workhouse which was dedicated to hard grind above all else.

1. It is evident from the passage that the strength of a country's industry depends upon
 - (A) original research
 - (B) international cooperation
 - (C) dedicated workforce
 - (D) electronic development
2. The sad rule mentioned in this passage refers to
 - (A) the inability of the Japanese to be inventive like the British
 - (B) the inability of the British to be industrious like the Japanese
 - (C) the lack of variety in Japanese inventions
 - (D) the poorer marketing ability of British
3. The TSR Z hovercraft, high speed train, Sinclair scooter etc. are the symbols of
 - (A) Japanese success
 - (B) British failure
 - (C) British success
 - (D) Japanese failure
4. According to the passage, prosperity in industry depends upon
 - (A) productivity
 - (B) inventiveness
 - (C) marketing ability
 - (D) official patronage
5. The main theme of this passage is
 - (A) electronic industry in Japan
 - (B) industrial comparison between Japan and Britain
 - (C) the role of marketing efficiency in industrial prosperity
 - (D) the importance of original research in industry

1. C 2. D 3. B 4. C 5. C

Read the following passage carefully and answer questions:

The object underlying the rules of natural justice "is to prevent miscarriage of justice" and secure "fair play in action" As pointed out earlier the requirement about recording of reasons for its decision by an administrative authority exercising quasi-judicial functions achieves his object by excluding changes of arbitrariness and ensuring a degree of fairness in the process of decision making. Keeping in view the expanding horizon of the principle of natural justice which govern exercise of power by administrative authorities. The rules of natural justice are not embodied rules. The extent of their application depends upon the particularly statutory framework where under jurisdiction has been conferred on the administrative authority. with regard to the exercise of particular power by an administrative authority including exercise of judicial or quasi-judicial functions the legislature, while conferring the said power, may feel that it would not be in the larger public interest that the reasons for the order passed by the administrative authority be recorded in the order and be communicated to the aggrieved party and it may dispense with such a requirement.

1. "The rules of the natural justice are not embodies rules" means that these rules
 - (A) are left deliberately vague
 - (B) cannot be satisfactorily interpreted
 - (C) are flexible
 - (D) cannot be visualised
2. From the passage it is clear that it is the legislature that
 - (A) invests the administrative authority with enormous powers
 - (B) embodies rules
 - (C) has the larger interests of public welfare
 - (D) leaves administrative authority enough discretion to interpret rules
3. According to the passage, there is always a gap between
 - (A) rules of natural justice and their application
 - (B) conception of a rule and its concretisation
 - (C) demand for natural justice and its realisation
 - (D) intention and execution
4. "To dispense with a requirement" means
 - (A) to do without the demand
 - (B) to drop the charge
 - (C) to cancel all formal procedure
 - (D) to alter the provisions of the case
5. According to the passage, natural justice can be brought about by
 - (A) administrative authority remaining vigilant
 - (B) administrative authority upholding rules of natural justice
 - (C) administrative authority farming rules suitably
 - (D) administrative authority observing the rules of fair play

1. C 2. A 3. A 4. A 5. D

Read the following passage carefully and answer questions:

It is to progress in the human sciences that we must look to undo the evils which have resulted from a knowledge of physical world hastily and superficially acquired by population unconscious of the changes in themselves that the new knowledge has imperative. The road to a happier world than any known in the past lies open before us if atavistic destructive passions can be kept in leash while the necessary adaptations are made. Fears are inevitable in time, but hopes are equally rational and far more likely to bear good fruit. We must learn to think rather less of the dangers to be avoided than of the good that will lie within our grasp if we can believe in it and let it dominate our thoughts. Science, whatever unpleasant consequences it may have by the way, is in its very nature a liberator, a liberator of bondage to physical nature and in time to come, a liberator from the weight of destructive passions. We are on the threshold of utter disaster or unprecedentedly glorious achievement. No previous age has been fraught with problems so momentous; and it is to science that we must look to for a happy future.

1. What does science liberate us from? It is liberate us from
 - (A) fears and destructive passions
 - (B) slavery to physical nature and from passions
 - (C) bondage to physical nature

1. B

- (D) idealistic hopes of glorious future
2. Should human sciences be developed because they will
 - (A) provide more knowledge of the physical world
 - (B) make us conscious of the changing world
 - (C) make us conscious of the changing in ourselves
 - (D) eliminate the destruction caused by a superficial knowledge of the physical world
 3. If man's bestial yearning is controlled
 - (A) the future will be tolerable
 - (B) the future will be brighter than the present
 4. Fears and hopes according to the author
 - (A) are closely linked with the life of modern man
 - (B) can bear fruit
 - (C) can yield good results
 - (D) are irrational
 5. To carve out a bright future man should
 - (A) analyse dangers that lie ahead
 - (B) try to avoid dangers
 - (C) overcome fear and dangers
 - (D) cultivate a positive outlook

2. D 3. B 4. A 5. D

Read the following passage carefully and answer questions:

In the world today we make health an end in itself. We have forgotten that health is really meant to enable a person to do his work and do it well. A lot of modern medicine and this includes many patients as well as many physicians pay very little attention to health but very much attention to those who imagine that they are ill. Our great concern with health is shown by the medical columns in newspapers, the health articles in popular magazines and the popularity of television programmes and all those books on medicine. We talk about health all the time. Yet for the most part the only result is more people with imaginary illness. The healthy man should not be wasting time talking about health: he should be using health for work. The work does the work that good health makes possible.

1. Modern medicine is primarily concerned with
 - (A) promotion of good health
 - (B) people suffering from imaginary illness
 - (C) people suffering from real illness
 - (D) increased efficiency in work
2. The passage suggests that
 - (A) health is an end in itself
 - (B) health is blessing
 - (C) health is only means to an end
3. Talking about the health all time makes people
 - (A) always suffer from imaginary illness
 - (B) sometimes suffer from imaginary illness
 - (C) rarely suffer from imaginary illness
 - (D) often suffer from imaginary illness
4. The passage tells us
 - (D) we should not talk about health

1. B 2. C 3. D 4. B

- (A) how medicine should be manufactured
- (B) what healthy man should or should not do
- (C) what television programmes should be about
- (D) how best to imagine illness

5. A

- 5.** A healthy man should be concerned with
- (A) his work which good health makes possible
 - (B) looking after his health
 - (C) his health which makes work possible
 - (D) talking about health

9. Blood relation

Generally, in every competitive exam you may find these type problems. These types of problems test your understanding potential in given time. In your own language you may know all types of relations. In English also you should know all types of relation without any doubt. Some important relations are provided below. You should remember these relations to solve these types of problems.

Relations	Person
Mother's (or) father's son	Brother
Mother's (or) Father's Daughter	Sister
Mother's brother	Maternal Uncle
Father's Brother	Paternal uncle
Mother's (or) Father's sister	Aunt
Mother's (or) Father's father	Grand father
Mother's (or) Father's mother	Grand mother
Son's wife	Daughter in law
Daughter's husband	Son in law
Husband's (or) Wife's father	Father in law
Husband's (or) Wife's mother	Mother in law
Husband's (or) Wife's brother	Brother in law
Husband's (or) Wife's sister	Sister in law
Sister's husband	Brother in law
Brother's (or) Sister's son	Nephew
Brother's (or) Sister's daughter	Niece

9.1 Type Of Problems

Blood relation problem can be of three types

1. Single Person Blood Relations
2. Mixed Blood Relations
3. Coded Blood Relations

9.1.1 Single Person Blood Relations (SPBR)

These are Relations between two people only. Break the given sentence at is/was/as and resolve it from last point to is/was/as to get easy solution for the problem.

Example 1 Pointing to a lady Ravi said, "She is the only daughter of the father of my sister's brother". How is she related to Ravi?

Solution— Break the given sentence at is from the last, in the view of Ravi.

Relations	Person
My sister's brother	brother
Father of brother	father
Daughter of father	sister

So, that becomes "she is my sister". So, answer is sister.

Example 2 John introduces Mary as the daughter of the only son of my father's wife. How is Mary related to John?

Solution— Break the given sentence at as. Resolving from the last, In the view of John.

Relations	Person
My father's wife	mother
Only son of mother	himself i.e. John
Daughter of John	daughter.

So, answer is daughter.

Note— Sometimes they might ask like how is John related to Mary. In that case answer is father. So, don't make answers without clear understanding in this type of problems.

9.1.2 Indirect SPBR

Break the given sentence at is/was/as. Resolve the sentence from last upto is/was/as. And also resolve the sentence from the first upto is/was/as. Then you will get easy solution. Observe the below examples.

Example 3 Pointing to a man in the photograph, a Woman says, "His mother's only daughter is my mother". How is man related to woman?

Solution—

Relations	Person
From the last, up to is : my mother	Woman's mother
From the first, up to is : his mother's only daughter	his sister

His sister = woman's mother. So, the answer is Mother's brother i.e. Uncle. If question asks like how is woman related to that man? Then answer is sister's daughter i.e. niece.

Example 4 Introducing Suresh, Kalpana said, "His brother's father is the only son of my grandfather". How is Kalpana related to Suresh?

Solution— Break the sentence at is.

Relations	Person
From the last up to is : The only son of my grandfather	father
From the first up to is : his brother's father	father

Suresh's father = kalpana's father. So, they are brother & sister. Like in the above type of problems From either ends if it is like

Father = Father Uncle = Uncle
 Mother = Mother Aunt = Aunt

Then they both may be brothers / sisters / both & sister depending upon their sex.

9.1.3 Mixed Blood Relations

Mutual blood relations depends on more than two persons mentioned. These type of problems can be solved with the help of diagrams. Follow these symbols in the diagram to avoid confusion.

- + Male candidate
- Female candidate
- ↔ Couple
- ... Same generation i.e. brother-brother (or) sister-sister (or) sister to brother
- Different generations i.e. father-son (or) mother-son

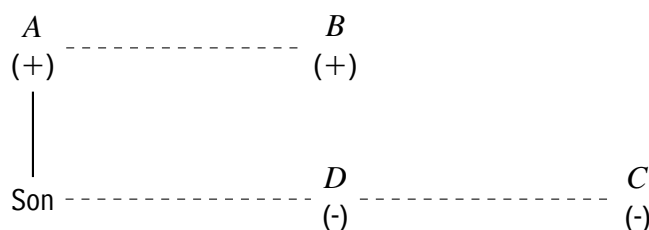
The following list of generation might be helpful to you.

First generation Grand father, Grand mother
 Second generation Father, Mother, Uncle, Aunt.
 Third generation Self, Sister, Brother, Sister in law, Brother in law
 Fourth generation Son, Daughter, Nephew, Niece.

Its better to use the same generation in one horizontal row in the diagrams.

Example 5 *A* and *B* are brothers and *C* and *D* are sisters. *A*'s son is *D*'s brother. How is *B* related to *C*?

Solution— By using above notations we can draw the below diagram. *A, B* are taken + and *C, D* are taken as – It seems that *A, B* belongs to one generation and *C, D* belongs to another generation. So, *A, B* are taken in one horizontal row and *C, D* are taken in other horizontal line.



It says that *A* is *C*'s father. Father's brother is uncle. So, answer is uncle.

9.1.4 Coded Blood Relations

This type of relationships is represented by codes and symbols like +, -, /, *. You have to analyze the required relation based on the given code. In this, you may need diagrammatic representation of problem to solve it. Use the same representation used in mixed blood relations. In the coding equation better to solve the code from last letter.

Example 6 If $P + Q$ means P is husband of Q , P/Q means P is the sister of Q , $P * Q$ means P is the son of Q . how is D related to A in $D * B + C/A$?

C/A C is sister of A .
 $B + C/A$ B is brother in law of A (sister's husband – brother in law.)
 $D * B + C/A$ D is nephew of A (sister's husband's son means sister's son i.e. nephew)

So, answer is Nephew.

Note—You should remember all the relations to solve blood relations type of problems. Without knowing relations you can't do anything. Out of all types, Single person blood relations are important from examination's point of view.

9.2 Exercises

- Pointing to a photograph of a boy Suresh said, "He is the son of the only son of my mother." How is Suresh related to that boy?
 - Brother
 - Uncle
 - Cousin
 - Father
 - Nephew
 - Cannot be determined
- If $A + B$ means A is the mother of B ; $A - B$ means A is the brother B ; $A \% B$ means A is the father of B and $A \times B$ means A is the sister of B , which of the following shows that P is the maternal uncle of Q ?
 - $Q - N + M \times P$
 - $P + S \times N - Q$
 - $P - M + N \times Q$
 - $Q - S \% P$
- If A is the brother of B ; B is the sister of C ; and C is the father of D , how D is related to A ?
 - Brother
 - Sister
- If $A + B$ means A is the brother of B ; $A - B$ means A is the sister of B and $A \times B$ means A is the father of B . Which of the following means that C is the son of M ?
 - $M - N \times C + F$
 - $F - C + N \times M$
 - $N + M - F \times C$
 - $M \times N - C + F$
- Introducing a boy, a girl said, "He is the son of the daughter of the father of my uncle." How is the boy related to the girl?
 - Brother
 - Nephew
 - Uncle
 - Son-in-law
- Pointing to a photograph Lata says, "He is the son of the only son of my grandfather." How is the man in the photograph related to Lata?
 - Brother

- (B) Uncle
(C) Cousin
(D) Data is inadequate
7. If $A + B$ means A is the brother of B ; $A \times B$ means A is the son of B ; and $A \% B$ means B is the daughter of A then which of the following means M is the maternal uncle of N ?
- (A) $M + O \times N$
(B) $M \% O \times N + P$
(C) $M + O \% N$
(D) None of these
8. If D is the brother of B , how B is related to C ? To answer this question which of the statements is/are necessary?
1. The son of D is the grandson of C
 2. B is the sister of D
- (A) Only 1
(B) Only 2
(C) Either 1 or 2
(D) 1 and 2 both are required
9. If $A + B$ means A is the father of B ; $A - B$ means A is the brother B ; $A \% B$ means A is the wife of B and $A \times B$ means A is the mother of B , which of the following shows that M is the maternal grandmother of T ?
- (A) $M \times N \% S + T$
(B) $M \times N - S \% T$
(C) $M \times S - N \% T$
(D) $M \times N \times S \% T$
10. Pointing to a photograph. Bajpai said, "He is the son of the only daughter of the father of my brother." How Bajpai is related to the man in the photograph?
- (A) Nephew
(B) Brother
(C) Father
(D) Maternal Uncle
11. Deepak said to Nitin, "That boy playing with the football is the younger of the two brothers of the daughter of my father's wife." How is the boy playing football related to Deepak?
- (A) Son
(B) Brother
(C) Cousin
(D) Brother-in-law
12. Pointing a photograph X said to his friend Y , "She is the only daughter of the father of my mother." How X is related to the person of photograph?
- (A) Daughter
(B) Son
(C) Nephew
(D) Cannot be decided
13. Veena who is the sister-in-law of Ashok, is the daughter-in-law of Kalyani. Dheeraj is the father of Sudeep who is the only brother of Ashok. How Kalyani is related to Ashok?
- (A) Mother-in-law
(B) Aunt
(C) Wife
(D) None of these
14. If $A + B$ means A is the sister of B ; $A \times B$ means A is the wife of B , $A \% B$ means A is the father of B and $A - B$ means A is the brother of B . Which of the following means T is the daughter of P ?
- (A) $P \times Q \% R + S - T$
(B) $P \times Q \% R - T + S$
(C) $P \times Q \% R + T - S$
(D) $P \times Q \% R + S + T$
15. Pointing to a woman, Abhijit said, "Her granddaughter is the only daughter of my brother." How is the woman related to Abhijit?
- (A) Sister
(B) Grandmother

- (C) Mother-in-law
(D) Mother
- 16.** Amit said —“This girl is the wife of the grandson of my mother”. How is Amit related to the girl?
(A) Brother
(B) Grandfather
(C) Husband
(D) Father-in-law
- 17.** A and B are children of D Who is the father of A ? To answer this question which of the statements (1) and (2) is necessary?
- C is the brother of A and the son of E .
 - F is the mother B
- (A) Only (1)
(B) Only (2)
(C) Either (1) or (2)
(D) (1) and (2) both
- 18.** Pointing towards a man, a woman said, “His mother is the only daughter of my mother.” How is the woman related to the man?
(A) Mother
(B) Grandmother
(C) Sister
(D) Daughter
- 19.** If $P\$Q$ means P is the brother of Q ; $P\#Q$ means P is the mother of Q ; $P*Q$ means P is the daughter of Q in $A\#B\$C*D$, who is the father?
(A) D
(B) B
(C) C
(D) Data is inadequate
- 20.** Introducing Sonia, Aamir says, “She is the wife of only nephew of only brother of my mother.” How Sonia is related to Aamir?
(A) Wife
(B) Sister
(C) Sister-in-law
(D) Data is inadequate
- 21.** If $A + B$ means A is the brother of B ; $A\%B$ means A is the father of B and $A \times B$ means A is the sister of B . Which of the following means M is the uncle of P ?
(A) $M\%N \times P$
(B) $N \times P\%M$
(C) $M + S\%R\%P$
(D) $M + K\%T \times P$
- 22.** Pointing to Varman, Madhav said, “I am the only son of one of the sons of his father.” How is Varman related to Madhav?
(A) Nephew
(B) Uncle
(C) Father or Uncle
(D) Father
- 23.** Introducing a woman, Shashank said, “She is the mother of the only daughter of my son.” How that woman is related to Shashank?
(A) Daughter
(B) Sister-in-law
(C) Wife
(D) Daughter-in-law
- 24.** If $A + B$ means B is the brother of A ; $A \times B$ means B is the husband of A ; $A - B$ means A is the mother of B and $A\%B$ means A is the father of B , which of the following relations shows that Q is the grandmother of T ?
(A) $Q - P + R\%T$
(B) $P \times Q\%R - T$
(C) $P \times Q\%R + T$
(D) $P + Q\%R - T$
- 25.** Consider the following
1. $A3P$ means A is the mother of P
2. $A4P$ means A is the brother of P

3. $A9P$ means A is the husband of P
 4. $A5P$ means A is the daughter of P
- Which of the following means that K is the mother-in-law of M ?
- (A) $M9N3K4J$
 (B) $M9N5K3J$
 (C) $K5J9M3N$
 (D) $K3J9N4M$
- 26.** Pointing to a photograph Anjali said, "He is the son of the only son of my grandfather." How is the man in the photograph related to Anjali?
 (A) Brother
 (B) Uncle
 (C) Son
 (D) Data is inadequate
- 27.** Pointing to a person, Deepak said, "His only brother is the father of my daughter's father". How is the person related to Deepak?
 (A) Father
 (B) Grandfather
 (C) Uncle
 (D) Brother-in-law
- 28.** P is the mother of K ; K is the sister of D ; D is the father of J . How is P related to J ?
 (A) Mother
 (B) Grandmother
 (C) Aunt
 (D) Data inadequate
- 29.** If $P\$Q$ means P is the father of Q ; $P\#Q$ means P is the mother of Q and $P * Q$ means P is the sister of Q , then $N\#L\$P * Q$ shows which of the relation of Q to N ?
 (A) Grand son
 (B) Grand daughter
 (C) Nephew
 (D) Data is inadequate
- 30.** If $A\$B$ means A is the brother of B ; $A@B$ means A is the wife of B ; $A\#B$ means A is the daughter of B and $A * B$ means A is the father of B , which of the following indicates that U is the father-in-law of P ?
 (A) $P@Q\$T\#U * W$
 (B) $P@W\$Q * T\#U$
 (C) $P@Q\$W * T\#U$
 (D) $P@Q\$T\#W * U$
- 31.** Introducing a man, a woman said, "He is the only son of the mother of my mother." How is the woman related to the man?
 (A) Mother
 (B) Sister
 (C) Niece
 (D) Maternal aunt
- 32.** Pointing to Gopi, Nalni says, "I am the daughter of the only son of his grandfather." How Nalni is related to Gopi?
 (A) Niece
 (B) Daughter
 (C) Sister
 (D) Cannot be determined
- 33.** A 's son B is married with C whose sister D is married to E the brother of B . How D is related to A ?
 (A) Sister
 (B) Daughter's-in-law
 (C) Sister-in-law
 (D) Cousin
- 34.** Pointing to a lady a person said, "The son of her only brother is the brother of my wife." How is the lady related to the person?
 (A) Maternal aunt
 (B) Grandmother
 (C) Sister of father-in-law
 (D) None of these
- 35.** Consider the following

1. $B5D$ means B is the father of D
2. $B9D$ means B is the sister of D
3. $B4D$ means B is the brother of D
4. $B3D$ means B is the wife of D

Which of the following means F is the mother of K ?

- (A) $F3M5K$
 (B) $F5M3K$
 (C) $F9M4N3K$
 (D) $F3M5N3K$
- 36.** $A\$B$ means A is the father of B ; $A\#B$ means A is the sister of B ; $A*B$ means A is the daughter of B and $A@B$ means A is the brother of B . Which of the following indicates that M is the wife of Q ?
- (A) $Q\$R\#T@M$
 (B) $Q\$R@T\#M$
 (C) $Q\$R*T\#M$
 (D) $Q\$R@T*M$
- 37.** If $A\$B$ means A is the brother of B ; $B*C$ means B is the son of C ; $C@D$ means C is the wife of D and $A\#D$ means A is the son of D , how C is related to A ?
- (A) Maternal grandmother
 (B) Maternal aunt
 (C) Aunt
 (D) Mother
- 38.** Pointing to a girl Sandeep said, "She is the daughter of the only sister of my father." How is Sandeep related to the girl?
- (A) Uncle
 (B) Cousin
 (C) Father
 (D) Grandfather
- 39.** Pointing to a boy in the photograph Reena said, "He is the only son of the only child of my grandfather." How Reena is related to that boy?
- (A) Mother
 (B) Sister

- (C) Aunt
 (D) Cannot be determined

40. Consider the following

1. $A*B$ means A is the sister of B
2. $A\$B$ means B is the mother of A
3. $A+B$ means A is the brother of B
4. $A=B$ means B is the father of A

Which of the following means M is the maternal uncle of N ?

- (A) $M = P + Q * N$
 (B) $N + P = Q * M$
 (C) $N * P \$ Q * M$
 (D) None of these

41. If $M \times N$ means M is the daughter of N ; $M + N$ means M is the father of N ; $M \% N$ means M is the mother of N and $M - N$ means M is the brother of N then $P \% Q + R - T \times K$ indicates which relation of P to K ?

- (A) Daughter-in-law
 (B) Sister-in-law
 (C) Aunt
 (D) None of these

42. If $P + Q$ means P is the brother of Q ; $P \times Q$ means P is the father of Q and $P - Q$ means P is the sister of Q , which of the following relations shows that I is the niece of K ?

- (A) $K + Y + Z - I$
 (B) $K + Y \times I - Z$
 (C) $Z - I \times Y + K$
 (D) $K \times Y + I - Z$

43. Pointing towards a girl, Abhisek says, "This girl is the daughter of only a child of my father." What is the relation of Abhisek's wife to that girl?

- (A) Daughter
 (B) Mother
 (C) Aunt
 (D) Sister

- 44.** If $A\$B$ means B is the father of A ; $A\#B$ means B is the mother of A ; $A * B$ means B is the sister of A and $A@B$ means B is the husband of A , which of the following indicates that N is the grandmother of P ?
- (A) $P * Q\#M\$N$
 (B) $P@Q\$M\#N$
 (C) $P\#Q\$N * M$
 (D) None of these
- 45.** Anupam said to a lady sitting in a car, "The only daughter of the brother of my wife is the sister-in-law of the brother of your sister." How the husband of the lady is related to Anupam?
- (A) Maternal uncle
 (B) Uncle
 (C) Father
 (D) Son-in-law
- 46.** If $P + Q$ means P is the brother of Q ; $P \times Q$ means P is the wife of Q and $P \% Q$ means P is the daughter of Q then which of the following means D is the uncle of A ?
- (A) $A \% B \times C + D$
 (B) $A \times B + C \% D$
 (C) $A + C \% B \times D$
 (D) None of these
- 47.** A is the son of C ; C and Q are sisters; Z is the mother of Q and P is the son of Z . Which of the following statements is true?
- (A) P and A are cousins
 (B) P is the maternal uncle of A
 (C) Q is the maternal grandfather of A
 (D) C and P are sisters
- 48.** M is the father of N who is the son of V . In order to know the relation of M to P , which of the statement/statements is/are necessary?
- P is the brother of V .
 - The daughter of N is the granddaughter of V .
- (A) Only (1)
 (B) Only (2)
 (C) Either (1) or (2)
 (D) (1) and (2) both
- 49.** If $X + Y$ means X is the daughter of Y ; $X - Y$ means X is the brother of Y ; $X \% Y$ means X is the father of Y and $X \times Y$ means X is the sister of Y . Which of the following means I is the niece of J ?
- (A) $J - N \% C \times I$
 (B) $I \times C - N \% J$
 (C) $J + M \times C \% I$
 (D) $I \times C + N - J$
44. D 45. D 46. D 47. B 48. A 49. D

10. Intelligence & reasoning test

10.0.1 The alphabet

The normal English alphabet contains 26 letters in all, as shown below

A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z

(Usually, questions on alphabet are accompanied by this normal alphabet). From A to M, the alphabet completes its first half, while the other half starts from N and ends at Z.

$A - M = 1 - 13$ (First Alphabetical Half)

$N - Z = 14 - 26$ (Second Alphabetical Half)

10.0.2 Rule of EJOTY

One of the simplest rule to solve alphabetical series problem is EJOTY rule. Most of the times, you need to remember the position of any letter to solve puzzle. EJOTY rules will help you to easily find out the position of different letters in the alphabet.

E	J	O	T	Y
5	10	15	20	25

Table 10.1: Add caption

Now, for instance, we wish to find the position of, say, the 17th letter from the left side. You already know that the 15th letter from the left side is O, therefore, the only thing you have to do is to find a letter which is two positions ahead of O, which is Q (The Answer). Using this simple formula, you can quickly find the position of any letter from the left side without much brain-rattling.

Example 7 Let's say the name of the person imagined is ZUBINA. Now from EJOTY, we know that Z stands for 26, U stands for 21, B stands for 2, I stands for 9, N stands for 14 and A stands for 1. Now add up all these positions ($26+21+2+9+14+1$). What you get on addition does not have any significance, but it can be a very good way to try to make out and remember the individual positions of letters in the alphabet.

Example 8 What will be the next term in

BKS, DJT, FIU, HHV, ?

(A) IJX

(B) IGX

(C) JGW

(D) IGU

In each term, the first letter is moved two steps forward, the second letter one step backward and the third letter one step forward to obtain the corresponding letter of the next term. So, the missing term is JGW.

10.0.3 Find the position in reverse

We are very much habituated to find the position of alphabet from the left side, but in a typical question, sometimes we need to find out the position from the right-hand side. This seems to me little bit difficult, but a simple modification of the EJOTY rule plays a vital role to count the number of position from the right-hand side in alphabet series.

Example 9 Let's say there is a row of 7 boys in which a boy is standing 3rd from left. We want to know his position from the right side.

	B_1	B_2	B_3	B_4	B_5	B_6	B_7
Position from left	1	2	3	4	5	6	7
Position from right	7	6	5	4	3	2	1

From the above table, you can easily verify that the boy who was in the third position from the left is placed fifth position from the right side. In the case of alphabet series, if we are given the position of any letter from either side, we will add 1 to the total number of letters and then subtract its position from one side to get its position from the other side.

10.0.4 Letter series

This type of question usually consists of a series of small letters which follow a certain pattern. However some letters are missing from the series. These missing letters are then given in a proper sequence as one of the alternatives. The candidate is required to choose this alternative as the answer.

Example 10 What will be the correct choice

$aab - _ - aaa - bba - _$

(A) baa (B) abb (C) bbb (D) bba

1. The first blank space should be filled in by b so that we have two a 's followed by two b 's.
2. The second blank space should be filled in either by ' a '. So that we have four a 's followed by two b 's or by ' b '. So that we have three a 's followed by three b 's.
3. The last space must be filled in by ' a '.
4. Thus we have two possible answers - baa and bba . But only baa appears in the alternatives. So the answer is baa .
5. In case we had both the possible answers in the alternatives, we should choose the one that forms a more prominent pattern, which is $aabb/aaabb/aa$. and our answer would have been bba .

10.1 Solved exercises

In each of the following questions, various terms of a letter series are given with one term missing. Choose the missing term out of the given alternatives.

1. *cmw,hrb,.....,rbl,wgq,blv*

- | | |
|----------------|----------------|
| (A) <i>mwg</i> | (C) <i>lwg</i> |
| (B) <i>lvf</i> | (D) <i>mxg</i> |

2. *DKY,FJW,HIU,JHS,.....*

- | | |
|----------------|----------------|
| (A) <i>KGR</i> | (C) <i>KFR</i> |
| (B) <i>LFQ</i> | (D) <i>LGQ</i> |

3. *OTE,PUF,QVG,RWH,.....*

- | | |
|----------------|----------------|
| (A) <i>SYJ</i> | (C) <i>SXJ</i> |
| (B) <i>TXI</i> | (D) <i>SXI</i> |

4. *1725,15X4,13V3,?,9R1*

- | | |
|-----------------|-----------------|
| (A) <i>11T2</i> | (C) <i>14T2</i> |
| (B) <i>11T7</i> | (D) <i>11TT</i> |

5. *BXJ,ETL,HPN,KLP,.....*

- | | |
|----------------|-------------------|
| (A) <i>NHR</i> | (C) <i>MIP</i> |
| (B) <i>MHQ</i> | (D) None of these |

6. *P3C,R5F,T8I,V12L,.....*

- | | |
|-----------------|-------------------|
| (A) <i>Y17O</i> | (C) <i>X17O</i> |
| (B) <i>X17M</i> | (D) None of these |

7. *B,E,H,?*

- | | |
|--------------|--------------|
| (A) <i>I</i> | (C) <i>K</i> |
| (B) <i>J</i> | (D) <i>L</i> |

8. *G,H,J,M,.....,V*

- | | |
|--------------|--------------|
| (A) <i>T</i> | (C) <i>R</i> |
| (B) <i>S</i> | (D) <i>Q</i> |

9. *Q,N,K,?,E*

- | | |
|--------------|--------------|
| (A) <i>H</i> | (C) <i>Z</i> |
| (B) <i>M</i> | (D) <i>I</i> |

10. *BDGILNQS,*

- (A) *TV* (C) *WX*
(B) *VW* (D) *VX*

11. *QPO, SRQ, UTS, WVU,*

- (A) *XVZ* (C) *YXW*
(B) *ZYA* (D) *VWX*

12. *CG, DI, ?, IP, MU*

- (A) *FL* (C) *FP*
(B) *MN* (D) *FQ*

13. *AB, BA, ABD, DBA, PQRS, ?*

- (A) *SRQP* (C) *PQRM*
(B) *MNOI* (D) None of these

14. *....., siy, oeu, kaq, gwm, csi*

- (A) *wnb* (C) *vme*
(B) *vne* (D) None of these

15. *D – 4, F – 6, H – 8, J – 10,,*

- (A) *K – 12, M – 13* (C) *L – 12, N – 14*
(B) *L – 12, M – 14* (D) *K – 12, N – 14*

Definition 10.1 Answer key

10. D 11. C 13. A 14. D 15. C

10.2 Relationship or analogy test

The relationship test or analogy questions are common in nowadays competitive examination. In this type of questions, relationship between the words or object is more important than the meaning of the words or objects themselves. Students are asked to establish a relationship between the two objects. Whereas, to objects are related in some way, not necessarily real meaning. Your tasks in relationship test questions are to identify the relationship between the given pair of objects or words and then choose the answer choice with the most similar relationship. Analytical type problem is probably the easiest type of problem to solve as soon as you become familiar with the pattern and traps in those types of problems.

Definition 10.2 Strategy to solve analogical problem To solve analogical problem, don't look at the answer choices at first. Always think a short sentence, which expresses the relationship between the two objects given in the problem. If you can make a short sentence relating that two objects, then it is easier for you to pick up the correct answer choice.

Example 11 FISH : SCHOOL ::

In the above example, one can think the relationship between this two objects can be "a group of fish is called a school". Don't worry, you think that the meaning is totally absurd, but there are some relationship between fish and schools in your mind. That's it! Most students who, at first, struggle with analogies do so because they take a global view of the problem. They read the problem as they would a reading passage, looking for the feel, tone, or general relationship between the given words.

Example 12 ORCHESTRA : MUSICIAN ::

- (A) story : comedian
(B) band : singer

- (C) garden : leaf
(D) troupe : actor

"An ORCHESTRA is comprised of MUSICIANS." Now, a STORY is not comprised of COMEDIANS. Eliminate (A). A BAND may have a SINGER, but a BAND is not comprised of SINGERS: there may be a drummer, guitarist, etc. Eliminate (B). Similarly, a GARDEN is comprised of more than just LEAVES. Eliminate (C). But a TROUPE is comprised of ACTORS. The answer, therefore, is (D).

10.2.1 Some techniques to solve analogical questions

Solving analogical questions is easy, if you can grasp that tips and tricks to solve. There are lots of different tricks available and we will discuss it here.

S1 More than one answer choice:

If you think that your thinking is ambiguous and there are two choices that suites thinking, you must make your thinking more specific.

Example 13 CLUB : GOLF ::

- (A) type : book
(B) ball : soccer

- (C) glove : baseball
(D) racket : tennis

in this, you can think that, " A CLUB is used to play GOLF". However, in this process, the choices B, C and D remains equally competitive choices and simply you cannot pick any of them. Now, you can think that A CLUB is used to strike a ball in the game of GOLF. Similarly, a RACKET is used to strike a ball in the game of TENNIS.

S2 Analogical questions involving verb:

For analogical questions involving verbs, you try to form a sentence using the Infinitive, or "to" , form of the verb. These Analogies Can Often Be Written with the Following Structure:
To..... Is To

Example 14 CRAWL : PROCEED

TO CRAWL is TO PROCEED slowly.

S3 Try to reverse the order of the given words:

Do not hesitate to reverse the order of the given words. When you try to form a sentence by using the given words, sometimes it is natural to use the second word first. Similarly, the answer choices are also comes in reverse order.

Example 15 POTTERY : SHARD ::

A SHARD is a piece of broken POTTERY.

S4 You are not recognizing word

If you are unable to recognize a word, then parts of speech are powerful tool in analogical questions. If the given pair of words is an adjective and a noun, then look for each of the answer choices and there will be an adjective and noun, in that order. These techniques help you to determine the right choice.

Example 16 PURIFY : DROSS ::

(A) defile : litter

(B) purge : rival

(C) align : objects

(D) effectuate : thespian

you know what PURIFY means, it basically means to clean. Suppose, the meaning of DROSS is not familiar with you. First, you will think that it may means to opposite of PURIFY, that is, Pollute. This would make it a verb, but all the second words in the answer choice pairs are nouns. So DROSS must be a noun as well. Perhaps DROSS is what is removed when something is PURIFIED. Similarly, political RIVALS are removed in a PURGE .

Solved Exercises

For each of the below problems, write a sentence using the two words given and and select the correct answer choices.

1. COACH : TEAM ::

(A) groupie : band

(B) foreman : jury

(C) diplomat : country

(D) senator : senate

2. ANARCHY : GOVERNMENT ::

(A) confederation : state

(B) trepidation : courage

(C) serenity : equanimity

(D) computer : harddrive

3. GALVANIZE : CHARISMATIC LEADER ::

(A) jeer : fan

(B) correct : charlatan

(C) retreat : champion

(D) moderate : arbiter

4. SENTENCE : WORDS ::

(A) album : guitar

(B) paragraph : punctuation

(C) novel : index

(D) collage : paper strips

5. PARRY : BLOW ::
(A) equivocate : question
(B) cower : start
(C) boomerang : backlash
(D) cast : invective
6. DISQUIETUDE : ANXIOUS ::
(A) isolation : sequestered
(B) cupidity : bellicose
(C) embellishment : overstated
(D) nonplus : perplexed
7. MILK : DRAIN ::
(A) insult : commend
(B) abstract : distend
(C) extend : disregard
(D) exploit : employ
8. . ABSTRUSE : CLEAR ::
(A) nondescript : conspicuous
(B) high-brow : indifferent
(C) affable : agreeable
(D) prominent : manifest
9. OMNISCIENT : KNOWLEDGE ::
(A) saturnine : energy
(B) principled : method
(C) inquisitive : science
(D) boundless : expanse
10. STOKE : SMOTHER ::
(A) incinerate : heat
(B) animate : enervate
(C) contest : decry
(D) acknowledge : apprehend

Definition 10.3 Answer key for solved exercises

6. D 7. D 8. A 9. D 10. B

10.3 Series completion test

Series completion test deals with questions in which series of numbers or alphabetical letters are given, which are generally called as terms of the series. These terms follow a certain pattern throughout the series. The candidate is required to recognize this pattern and either complete the given series with the most suitable alternative or find wrong in the series.

Sequences

A sequence is an ordered list of numbers. The following is a sequence of odd numbers:

$$1, 3, 5, 7, 9, 11, \dots$$

A term of a sequence is identified by its position in the sequence. In the above sequence, 11 is the sixth term, 9 is the fifth term, etc. The symbol ... indicates that the sequence continues forever.

Example 17 A number series is given with one term missing. Choose the correct alternative that will same pattern and fill in the blank spaces.

$$1, 4, 9, 16, 25, x$$

- (A) 0 (B) 36 (C) 48 (D) 49

Solution: The numbers are $1^2, 2^2, 3^2, 4^2, 5^2$. Hence, missing number = $6^2 = 36$.

Arithmetic Progressions

An arithmetic progression is a sequence of numbers such that the difference of any two successive members of the sequence is a constant. For example, the sequence $1, 2, 3, 4, \dots$ is an arithmetic progression with common difference 1.

Example 18 The seventh number in a sequence of numbers is 31 and each number after the first number in the sequence is 4 less than the number immediately preceding it. What is the fourth number in the sequence?

- (A) 11 (B) 13 (C) 33 (D) 43

Definition 10.4 Sequence Formulas We denote the common difference by d and a_1 is the first term. By a_n we denote the n -th term of an arithmetic progression. By S_n we denote the sum of the first n elements of an arithmetic series.

If the initial term of an arithmetic progression is a_1 and the common difference of successive members is d , then the n -th term of the sequence a_n is given by

$$a_n = a_1 + (n - 1)d, n = 1, 2, \dots$$

The sum S of the first n numbers of an arithmetic progression is given by the formula:

$$S = \frac{1}{2}(a_1 + a_n)n$$

where a_1 is the first term and a_n is the last one.

$$S = \frac{1}{2}(2a_1 + d(n - 1))n$$

Example 19 What is the sum of the first 10 numbers of this arithmetic series: $1, 11, 21, 31, \dots$

- (A) 650 (B) 460 (C) 462 (D) 499

Solution: we can use this formula $S = \frac{1}{2}(2a_1 + d(n - 1))n$

$$S = \frac{1}{2}(2 * 1 + 10(10 - 1))10 = 5(2 + 90) = 460$$

Geometric Progressions

In mathematics, a geometric progression (also inaccurately known as a geometric series) is a sequence of numbers such that the quotient of any two successive members of the sequence is a constant called the common ratio of the sequence.

Definition 10.5 Sequence Formulas Since each term of a geometric progression “is generated by multiplying the preceding term by a fixed number,” we get the following:

first term $= a$

- second term $= ar^1$ where r is the common ratio
- third term $= ar^2$
- n th term is $an = ar^{n-1}$

The sum of the first n terms of an geometric sequence is

$$\frac{a(1 - r^n)}{1 - r}$$

10.3.0.1 Series

A series is simply the sum of the terms of a sequence. The following is a series of even numbers formed from the sequence 2, 4, 6, 8, ...

$$2 + 4 + 6 + 8 + \dots$$

A term of a series is identified by its position in the series. In the above series, 2 is the first term, 4 is the second term, etc. The ellipsis symbol (...) indicates that the series continues forever

Definition 10.6 The sum of the squares of the first n positive integers $1^2 + 2^2 + 3^2 + \dots + n^2$ is

$$\frac{n(n+1)(2n+1)}{6}$$

Example 20 What is the sum of the squares of the first 9 positive integers?

We are given a formula for the sum of the squares of the first n positive integers. Putting $n = 9$ into this formula we get

$$\frac{n(n+1)(2n+1)}{6} = \frac{9(9+1)(2*9+1)}{6} = 285$$

Solved exercises

Choose the correct alternative that will continue the same pattern and replace the question mark in the given series.

1. 120, 99, 80, 63, 48, ?

- (A) 35
- (B) 38
- (C) 39
- (D) 40

2. 589654237, 89654237, 8965423, 965423, ?

- (A) 58965
- (B) 65423
- (C) 89654

- (D) 96542
- 3.** 3, 10, 101, ?
(A) 10101
(B) 10201
(C) 10202
(D) 11012
- 4.** In the series 2, 6, 18, 54, ... what will be the 8th term ?
(A) 4370
(B) 4374
(C) 7443
(D) 7434
- 5.** 1, 1, 4, 8, 9, 27, 16, ?
(A) 32
(B) 64
(C) 81
(D) 256
- 6.** 1, 2, 3, 6, 9, 18, ?, 54
(A) 18
(B) 27
(C) 36
(D) 81
- 7.** 6, 13, 25, 51, 101, ?
(A) 201
(B) 202
(C) 203
(D) 205
- 8.** 5, 6, 9, 15, ?, 40
(A) 21
(B) 25
(C) 27
(D) 33
- 9.** 1, 3, 4, 8, 15, 27, ?
(A) 37
(B) 44
(C) 50
(D) 55
- 10.** 3, 4, 7, 7, 13, 13, 21, 22, 31, 34, ?
(A) 42
(B) 43
(C) 51
(D) 52
- 11.** 198, 194, 185, 169, ?
(A) 92
(B) 112
(C) 136
(D) 144
- 12.** 2, 3, 5, 7, 11, ?, 17
(A) 12
(B) 13
(C) 14
(D) 15
- 13.** 6, 12, 21, ?, 48
(A) 33
(B) 38
(C) 40
(D) 45
- 14.** Which term of the series 5, 10, 20, 40, ... is 1280?
(A) 10th
(B) 9th
(C) 8th
(D) None of these
- 15.** 2, 5, 9, ?, 20, 27
(A) 14
(B) 16
(C) 18
(D) 24
- 16.** 2, 3, 3, 5, 10, 13, ?, 43, 172, 177
(A) 23
(B) 38
(C) 39
(D) 40

- 17.** 9, 27, 31, 155, 161, 1127, ?
(A) 316
(B) 1135
(C) 1288
(D) 2254
- 18.** 2, 1, 2, 4, 4, 5, 6, 7, 8, 8, 10, 11, ?
(A) 9
(B) 10
(C) 11
(D) 12
- 19.** Which of the following will not be a number of the series 1, 8, 27, 64, 125,?
(A) 256
(B) 512
(C) 729
(D) 1000
- 20.** 13, 32, 24, 43, 35, ?, 46, 65, 57, 76
(A) 45
(B) 52
(C) 54
(D) 55
- 21.** 22, 24, 28, ?, 52, 84
(A) 36
(B) 38
(C) 42
(D) 46
- 22.** 3, 15, ?, 63, 99, 143
(A) 27
(B) 35
(C) 45
(D) 56
- 23.** 90, 180, 12, 50, 100, 200, ?, 3, 50, 4, 25, 2, 6, 30, 3
(A) 150
(B) 175
(C) 225
(D) 250
- 24.** 48, 24, 96, 48, 192, ?
(A) 76
(B) 90
(C) 96
(D) 98
- 25.** 2, 15, 41, 80, ?
(A) 111
(B) 120
(C) 121
(D) 132
- 26.** 6, 11, 21, 36, 56, ?
(A) 42
(B) 51
(C) 81
(D) 91
- 27.** 563, 647, 479, 815, ?
(A) 672
(B) 386
(C) 279
(D) 143
- 28.** 13, 35, 57, 79, 911, ?
(A) 1110
(B) 1112
(C) 1113
(D) 1315
- 29.** 1, 4, 10, 22, 46, ?
(A) 64
(B) 86
(C) 94
(D) 122
- 30.** 66, 36, 18, ?
(A) 3
(B) 6
(C) 8
(D) 9

- 31.** In the series 3, 9, 15, what will be the 21st term?
 (A) 117
 (B) 121
 (C) 123
 (D) 129
- 32.** 28, 33, 31, 36, ?, 39
 (A) 32
 (B) 34
 (C) 38
 (D) 40
- 33.** 1, 9, 25, 49, 81, ?
 (A) 100
 (B) 112
 (C) 121
 (D) 144
- 34.** 1, 9, 25, 49, ?, 121
 (A) 64
 (B) 81
 (C) 91
 (D) 100
- 35.** 2, 2, 5, 13, 28, ?
 (A) 49
 (B) 50
 (C) 51
 (D) 52
- 36.** 0, 2, 8, 14, ?, 34
 (A) 20
 (B) 23
 (C) 24
 (D) 25
- 37.** 1, 5, 14, 30, 55, 91, ?
 (A) 130
 (B) 140
 (C) 150
 (D) 160
- 38.** In the series 10, 17, 24, 31, 38, which of the following will be a number of the series ?
 (A) 48
 (B) 346
 (C) 574
 (D) 1003
- 39.** 240, ?, 120, 40, 10, 2
 (A) 180
 (B) 240
 (C) 420
 (D) 480
- 40.** 2, 3, 8, 27, 112, ?
 (A) 226
 (B) 339
 (C) 452
 (D) 565
- 41.** 6, 17, 39, 72, ?
 (A) 83
 (B) 94
 (C) 116
 (D) 127
- 42.** 20, 20, 19, 16, 17, 13, 14, 11, ?, ?
 (A) 10, 10
 (B) 10, 11
 (C) 13, 14
 (D) 13, 16
- 43.** 24, 60, 120, 210, ?
 (A) 300
 (B) 336
 (C) 420
 (D) 525
- 44.** 625, 5, 125, 25, 25, ?, 5
 (A) 5
 (B) 25
 (C) 125
 (D) 625

- 45.** 10, 100, 200, 310, ?
(A) 400
(B) 410
(C) 420
(D) 430
- 46.** 11, 10, ?, 100, 1001, 1000, 10001
(A) 101
(B) 110
(C) 111
(D) None of these
- 47.** 2, 7, 27, 107, 427, ?
(A) 1262
(B) 1707
(C) 4027
(D) 4207
- 48.** 1, 1, 2, 6, 24, ?, 720
(A) 100
(B) 104
(C) 108
(D) 120
- 49.** 2, 15, 4, 12, 6, 7, ?, ?
(A) 8, 8
(B) 8, 0
(C) 3, 8
(D) None of these
- 50.** 4832, 5840, 6848, ?
(A) 7815
(B) 7846
(C) 7856
(D) 7887
- 51.** 5824, 5242, ?, 4247, 3823
(A) 4467
(B) 4718
(C) 4856
(D) 5164
- 52.** 2, 8, 16, 128, ?
(A) 2042
(B) 2046
(C) 2048
(D) 2056
- 53.** 1, 2, 6, 7, 21, 22, 66, 67, ?
(A) 70
(B) 134
(C) 201
(D) 301
- 54.** 0.5, 0.55, 0.65, 0.8, ?
(A) 0.9
(B) 0.82
(C) 1
(D) 0.95
- 55.** 0, 2, 3, 5, 8, 10, 15, 17, 24, 26, ?
(A) 28
(B) 30
(C) 32
(D) 35
- 56.** 11, 13, 17, 19, 23, 25, ?
(A) 26
(B) 27
(C) 29
(D) 37
- 57.** 5, 2, 7, 9, 16, 25, ?
(A) 41
(B) 45
(C) 48
(D) 52
- 58.** 7, 26, 63, 124, 215, 342, ?
(A) 391
(B) 421
(C) 481
(D) 511

- 59.** 3, 12, 27, 48, 75, 108, ?
(A) 147
(B) 162
(C) 183
(D) 192
- 60.** 3, 7, 23, 95, ?
(A) 62
(B) 128
(C) 479
(D) 575
- 61.** 6, 18, 3, 21, 7, 56, ?
(A) 8
(B) 9
(C) 63
(D) 64
- 62.** 4, 9, 25, ?, 121, 169, 289, 361
(A) 49
(B) 64
(C) 81
(D) 87
- 63.** 6, 13, 28, 59, ?
(A) 111
(B) 113
(C) 114
(D) 122
- 64.** 4, 12, 36, 108, ?
(A) 144
(B) 216
(C) 304
(D) 324
- 65.** Which term of the series 5, 8, 11, 14, is 320?
(A) 104th
(B) 105th
(C) 106th
(D) 64th
- 66.** 8, 9, 8, 7, 10, 9, 6, 11, 10, ?, 12
(A) 5
(B) 7
(C) 8
(D) 11
- 67.** 4, 10, ?, 82, 244, 730
(A) 24
(B) 28
(C) 77
(D) 218
- 68.** 1, 5, 13, 25, 41, ?
(A) 51
(B) 57
(C) 61
(D) 63
- 69.** 325, 259, 204, 160, 127, 105, ?
(A) 94
(B) 96
(C) 98
(D) 100
- 70.** 4, 7, 12, 19, 28, ?
(A) 30
(B) 36
(C) 39
(D) 49
- 71.** 5760, 960, ?, 48, 16, 8
(A) 120
(B) 160
(C) 192
(D) 240
- 72.** 45, 54, 47, ?, 49, 56, 51, 57, 53
(A) 48
(B) 50
(C) 55
(D) None of these

73. 3, 8, 13, 24, 41, ?

- (A) 70
- (B) 75
- (C) 80
- (D) 85

74. 10, 14, 26, 42, 70, ?

- (A) 100
- (B) 102
- (C) 106
- (D) 114

75. 10, 18, 28, 40, 54, 70, ?

- (A) 85
- (B) 86
- (C) 87
- (D) 88

76. 8, 28, 116, 584, ?

- (A) 1752
- (B) 3502
- (C) 3504
- (D) 3508

In this type of questions, one term in the number series is wrong. Find out the wrong term

77. 121, 143, 165, 186, 209

- (A) 143
- (B) 165
- (C) 186
- (D) 209

78. 6, 15, 35, 77, 165, 221

- (A) 35
- (B) 77
- (C) 165
- (D) 15

79. 8, 13, 21, 32, 47, 63, 83

- (A) 13
- (B) 21
- (C) 32
- (D) 47

80. 1, 2, 4, 8, 16, 32, 64, 96

- (A) 4
- (B) 32
- (C) 64
- (D) 96

81. 3, 4, 10, 32, 136, 685, 4116

- (A) 10
- (B) 32
- (C) 136
- (D) 4116

82. 105, 85, 60, 30, 0, -45, -90

- (A) 105
- (B) 60
- (C) 0
- (D) -45

83. 2, 5, 10, 17, 26, 37, 50, 64

- (A) 17
- (B) 26
- (C) 37
- (D) 64

84. 125, 126, 124, 127, 123, 129

- (A) 126
- (B) 124
- (C) 123
- (D) 129

85. 2, 5, 10, 50, 500, 5000

- (A) 5
- (B) 10
- (C) 50
- (D) 5000

86. 1, 3, 12, 25, 48

- (A) 3
- (B) 12
- (C) 25
- (D) 48

- 87.** 15, 16, 22, 29, 45, 70
(A) 16
(B) 22
(C) 45
(D) 70
- 88.** 8, 14, 26, 48, 98, 194, 386
(A) 14
(B) 48
(C) 98
(D) 194
- 89.** 3, 10, 27, 4, 16, 64, 5, 25, 125
(A) 3
(B) 4
(C) 10
(D) 27
- 90.** 1, 5, 9, 15, 25, 37, 49
(A) 9
(B) 15
(C) 25
(D) 37
- 91.** 4, 10, 22, 46, 96, 190, 382
(A) 4
(B) 10
(C) 96
(D) 382
- 92.** 2, 6, 24, 96, 285, 568, 567
(A) 6
(B) 24
(C) 285
(D) 567
- 93.** 3, 2, 8, 9, 13, 22, 18, 32, 23, 42
(A) 8
(B) 9
(C) 13
(D) 22
- 94.** 196, 169, 144, 121, 101
(A) 101
(B) 121
(C) 169
(D) 196
- 95.** 56, 58, 62, 70, 84, 118, 182
(A) 58
(B) 62
(C) 84
(D) 118
- 96.** 1, 5, 5, 9, 7, 11, 11, 15, 12, 17
(A) 11
(B) 12
(C) 17
(D) 15
- 97.** 25, 36, 49, 81, 121, 169, 225
(A) 36
(B) 49
(C) 169
(D) 225
- 98.** 1, 3, 10, 21, 64, 129, 356, 777
(A) 21
(B) 129
(C) 10
(D) 356
- 99.** 5, 10, 40, 80, 320, 550, 2560
(A) 80
(B) 320
(C) 550
(D) 2560
- 100.** 2, 3, 4, 4, 6, 8, 9, 12, 16
(A) 3
(B) 6
(C) 9
(D) 12

- 101.** 11, 5, 20, 12, 40, 26, 74, 54
(A) 5
(B) 20
(C) 40
(D) 26
- 102.** 5, 27, 61, 122, 213, 340, 509
(A) 27
(B) 61
(C) 122
(D) 509
- 103.** 3, 7, 15, 39, 63, 127, 255, 511
(A) 15
(B) 39
(C) 63
(D) 127
- 104.** 380, 188, 92, 48, 20, 8, 2
(A) 8
(B) 20
(C) 48
(D) 188
- 105.** 16, 22, 30, 45, 52, 66
(A) 30
(B) 45
(C) 52
(D) 66
- 106.** 10, 26, 74, 218, 654, 1946, 5834
(A) 26
(B) 74
(C) 218
(D) 654
- 107.** 24576, 6144, 1536, 386, 96, 24
(A) 96
(B) 386
(C) 1536
(D) 6144
- 108.** 10, 14, 28, 32, 64, 68, 132
(A) 28
(B) 32
(C) 64
(D) 132
- 109.** 46080, 3840, 384, 48, 24, 2, 1
(A) 384
(B) 48
(C) 24
(D) 2
- 110.** 89, 78, 86, 80, 85, 82, 83
(A) 83
(B) 82
(C) 86
(D) 78
- 111.** 0, 2, 3, 5, 8, 10, 15, 18, 24, 26, 35
(A) 18
(B) 24
(C) 26
(D) 10
- 112.** 325, 259, 202, 160, 127, 105, 94
(A) 94
(B) 127
(C) 202
(D) 259
- 113.** 1236, 2346, 3456, 4566, 5686
(A) 1236
(B) 3456
(C) 4566
(D) 5686
- 114.** 93, 309, 434, 498, 521, 533
(A) 309
(B) 434
(C) 498
(D) 521
- 115.** 20, 19, 17, ?, 10, 5
(A) 12
(B) 13
(C) 14
(D) 15

116. 2, 3, 5, 7, 11, ?, 17

- (A) 12 (C) 14
(B) 13 (D) 15

117. 6, 11, 21, 36, 56, ?

- (A) 42 (C) 81
(B) 53 (D) 96

118. 1, 6, 13, 22, 33, ?

- (A) 44 (C) 46
(B) 53 (D) 96

119. 3, 9, 27, 81, ?

- (A) 324 (C) 210
(B) 243 (D) 162

120. 1, 9, 17, 33, 49, 73, ?

- (A) 97 (B) 99 (C) 101 (D) 201

121. 2, 5, 9, ?, 20, 27

- (A) 14 (C) 18
(B) 16 (D) 32

122. 5, 9, 17, 29, 45, ?

- (A) 60 (C) 68
(B) 65 (D) 70

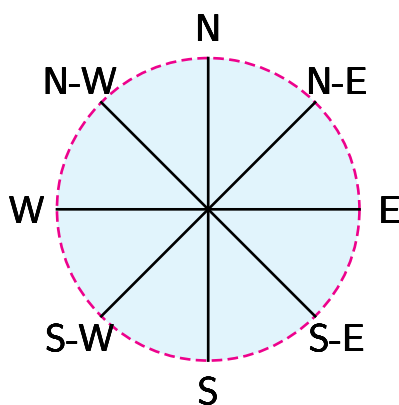
123. 3, 7, 15, 31, 63, ?

- (A) 92 (C) 127
(B) 115 (D) 131

Definition 10.7 Answer key

10.4 Direction sense test

Direction test question are important part of any competitive exam . It is used to check the Imagination power and decision making capability of candidate. These are most easy question and should be solve within 2-3 min after reading the statement of question. Most of the candidate get confused and choose wrong answer in the provided options. We know that the sun rises in the east and sets in the west, so there is four major directions that we prepared based on positioning of the sun, which is South, East, North and West and four sub directions are North-East, South-East, North-West and South-West. Now In this type of direction sense test problems, what we have to do is to make a diagram as quickly as possible on a paper as per the question given. The direction sense test problems involves a person moving in the given directions and the candidate is asked to find out the distance from the initial point or direction in which the person in the question is standing etc.



Definition 10.8 Most Important Remember Point

At the time of sunrise, Shadow of an object will always be towards WEST, i.e. If a man is standing facing NORTH at the Time of SUNRISE, his shadow will be towards his LEFT & facing SOUTH, his shadow will be towards his RIGHT.

- At the time of Sunset, Shadow of an object is always in the EAST. i.e. If a man is standing facing NORTH at the Time of SUNSET, his shadow will be towards his RIGHT & facing SOUTH, his shadow will be towards his LEFT.
- At 12:00 noon, the ray of the SUN are vertically downward, hence there will be no shadow.
- Angle will always be made accordingly to the face direction. Types of Questions:
- All LEFT turn will be taken ANTICLOCK WISE (ACW).
- All RIGHT turn will be taken CLOCKWISE (CW).

Solved exercises

1. One morning Udai and Vishal were talking to each other face to face at a crossing. If Vishal's shadow was exactly to the left of Udai, which direction was Udai facing?

(A) East	(B) West
	(C) North
	(D) South
2. Y is in the East of X which is in the North

- of Z. If P is in the South of Z, then in which direction of Y, is P?
- (A) North
(B) South
(C) South-East
(D) None of these
3. If South-East becomes North, North-East becomes West and so on. What will West become?
- (A) North-East
(B) North-West
(C) South-East
(D) South-West
4. A man walks 5 km toward south and then turns to the right. After walking 3 km he turns to the left and walks 5 km. Now in which direction is he from the starting place?
- (A) West
(B) South
(C) North-East
(D) South-West
5. Rahul put his timepiece on the table in such a way that at 6 P.M. hour hand points to North. In which direction the minute hand will point at 9.15 P.M. ?
- (A) South-East
(B) South
(C) North
(D) West
6. Rasik walked 20 m towards north. Then he turned right and walks 30 m. Then he turns right and walks 35 m. Then he turns left and walks 15 m. Finally he turns left and walks 15 m. In which direction and how many metres is he from the starting position?
- (A) 15 m West
(B) 30 m East
(C) 30 m West
(D) 45 m East
7. Two cars start from the opposite places of a main road, 150 km apart. First car runs for 25 km and takes a right turn and then runs 15 km. It then turns left and then runs for another 25 km and then takes the direction back to reach the main road. In the mean time, due to minor break down the other car has run only 35 km along the main road. What would be the distance between two cars at this point?
- (A) 65 km
(B) 75 km
(C) 80 km
(D) 85 km
8. Starting from the point X, Jayant walked 15 m towards west. He turned left and walked 20 m. He then turned left and walked 15 m. After this he turned to his right and walked 12 m. How far and in which directions is now Jayant from X?
- (A) 32 m, South
(B) 47 m, East
(C) 42 m, North
(D) 27 m, South
9. One evening before sunset Rekha and Hema were talking to each other face to face. If Hema's shadow was exactly to the right of Hema, which direction was Rekha facing?
- (A) North
(B) South
(C) East
(D) Data is inadequate
10. A boy rode his bicycle Northward, then turned left and rode 1 km and again turned left and rode 2 km. He found himself 1 km west of his starting point. How far did he ride northward initially?
- (A) 1 km
(B) 2 km
(C) 3 km
(D) 5 km

- 11.** K is 40 m South-West of L. If M is 40 m South-East of L, then M is in which direction of K?
 (A) East
 (B) West
 (C) North-East
 (D) South
- 12.** A man walks 2 km towards North. Then he turns to East and walks 10 km. After this he turns to North and walks 3 km. Again he turns towards East and walks 2 km. How far is he from the starting point?
 (A) 10 km
 (B) 13 km
 (C) 15 km
 (D) None of these
- 13.** The length and breadth of a room are 8 m and 6 m respectively. A cat runs along all the four walls and finally along a diagonal order to catch a rat. How much total distance is covered by the cat?
 (A) 10
 (B) 14
 (C) 38
 (D) 48
- 14.** One morning sujata started to walk towards the Sun. After covering some distance she turned to right then again to the right and after covering some distance she again turns to the right. Now in which direction is she facing?
 (A) North
 (B) South
 (C) North-East
 (D) South-West
- 15.** Some boys are sitting in three rows all facing North such that A is in the middle row. P is just to the right of A but in the same row. Q is just behind of P while R is in the North of
 (A) In which direction of R is Q?
 (B) South
 (C) South-West
 (D) North-East
 (E) South-East
- 16.** One morning after sunrise, Vimal started to walk. During this walking he met Stephen who was coming from opposite direction. Vimal watch that the shadow of Stephen to the right of him (Vimal). To Which direction Vimal was facing?
 (A) East
 (B) West
 (C) South
 (D) Data inadequate
- 17.** Golu started from his house towards North. After covering a distance of 8 km. he turned towards left and covered a distance of 6 km. What is the shortest distance now from his house?
 (A) 10 km.
 (B) 16 km.
 (C) 14 km
 (D) 2 km.
- 18.** P started from his house towards west. After walking a distance of 25 m. He turned to the right and walked 10 m. He then again turned to the right and walked 15 m. After this he is to turn right at 135° and to cover 30 m. In which direction should he go?
 (A) West
 (B) South
 (C) South-West
 (D) South-East
- 19.** X started to walk straight towards south. After walking 5 m he turned to the left and walked 3 m. After this he turned to the right and walked 5 m Now to which direction X is facing?
 (A) North-East
 (B) South

- (C) North
(D) South-West
- 20.** Hemant in order to go to university started from his house in the east and came to a crossing. The road to the left ends in a theatre, straight ahead is the hospital. In which direction is the university?
(A) North
(B) South
(C) East
(D) West
- 21.** After walking 6 km, I turned to the right and then walked 2 km. After then I turned to the left and walked 10 km. In the end, I was moving towards the North. From which direction did I start my journey?
(A) North
(B) South
(C) East
(D) West
- 22.** Ravi left home and cycled 10 km towards South, then turned right and cycled 5 km and then again turned right and cycled 10 km. After this he turned left and cycled 10 km. How many kilometers will he have to cycle to reach his home straight?
(A) 10 km
(B) 15 km
(C) 20 km
(D) 25 km
- 23.** Reena walked from A to B in the East 10 feet. Then she turned to the right and walked 3 feet. Again she turned to the right and walked 14 feet. How far is she from A?
(A) 4 feet
(B) 5 feet
(C) 24 feet
(D) 27 feet
- 24.** One morning after sunrise Nivedita and Niharika were talking to each other face to face at Dalphin crossing. If Niharika's shadow was exactly to the right of Nivedita, Which direction Niharika was facing?
(A) North
(B) South
(C) East
(D) Data is inadequate
- 25.** If $A \times B$ means A is to the south of B; $A + B$ means A is to the north of B; $A \% B$ means A is to the east of B; $A - B$ means A is to the west of B; then in $P \% Q + R - S$, S is in which direction with respect to Q?
(A) South-West
(B) South-East
(C) North-East
(D) North-West
- 26.** One morning after sunrise, Suresh was standing facing a pole. The shadow of the pole fell exactly to his right. To which direction was he facing?
(A) East
(B) South
(C) West
(D) Data is inadequate
- 27.** A child went 90 m in the East to look for his father, then he turned right and went 20 m. After this he turned right and after going 30 m he reached to his uncle's house. His father was not there. From there he went 100 m to his north and met his father. How far did he meet his father from the starting point?
(A) 80 m
(B) 100 m
(C) 140 m
(D) 260 m

- 28.** Four friends A, B, C and D live in a same locality. The house of B is in the east of A's house but in the north of C's house. The house of C is in the west of D's house. D's house is in which direction of A's house?
- (A) South-East
(B) North-East
(C) East
(D) Data is inadequate
- 29.** Umesh directly went from P, to Q which is 9 feet distant. Then he turns to the right and walked 4 feet. After this he turned to the right and walked a distance which is equal from P to Q. Finally he turned to the right and walked 3 feet. How far is he now from P?
- (A) 6 feet
(B) 5 feet
(C) 1 feet
(D) 0 feet
- 30.** Shyam walks 5 km towards East and then turns left and walks 6 km. Again he turns right and walks 9 km. Finally he turns to his right and walks 6 km. How far is he from the starting point?
- (A) 26 km
(B) 21 km
(C) 14 km
(D) 9 km
- 31.** Amit started walking positioning his back towards the sun. After some time, he turned left, then turned right and towards the left again. In which direction is he going now?
- (A) North or South
(B) East or West
(C) North or West
(D) South or West
- 32.** Rohit walked 25 m towards south. Then he turned to his left and walked 20 m. He then turned to his left and walked 25 m. He again turned to his right and walked 15 m. At what distance is he from the starting point and in which direction?
- (A) 35 m East
(B) 35 m North
(C) 30 m West
(D) 45 m East
- 33.** Village Q is to the North of the village P. The village R is in the East of Village Q. The village S is to the left of the village P. In which direction is the village S with respect to village R?
- (A) West
(B) South-West
(C) South
(D) North-West
- 34.** Radha moves towards South-East a distance of 7 km, then she moves towards West and travels a distance of 14 km. From here she moves towards North-West a distance of 7 km and finally she moves a distance of 4 km towards east. How far is she now from the starting point?
- (A) 3 km
(B) 4 km
(C) 10 km
(D) 11 km
- 35.** Sundar runs 20 m towards East and turns to right and runs 10 m. Then he turns to the right and runs 9 m. Again he turns to right and runs 5 m. After this he turns to left and runs 12 m and finally he turns to right and 6 m. Now to which direction is Sundar facing?
- (A) East
(B) West
(C) North
(D) South

- 36.** Sachin walks 20 km towards North. He turns left and walks 40 km. He again turns left and walks 20 km. Finally he moves 20 km after turning to the left. How far is he from his starting position?
- (A) 20 km.
(B) 30 km.
(C) 50 km.
(D) 60 km.

- 37.** From his house, Lokesh went 15 km to the North. Then he turned west and covered 10 km. Then he turned south and covered 5 km. Finally turning to the east, he covered 10 km. In which direction is he from his house?
- (A) East
(B) West
(C) North
(D) South

Dev, Kumar, Nilesh, Ankur and Pintu are standing facing to the North in a playground such as given below: Kumar is at 40 m to the right of Ankur. Dev is 60 m in the south of Kumar. Nilesh is at a distance of 25 m in the west of Ankur. Pintu is at a distance of 90 m in the North of Dev.

- 38.** Which one is in the North-East of the person who is to the left of Kumar?
- (A) Dev
(B) Nilesh
(C) Ankur
(D) Pintu
- 39.** If a boy starting from Nilesh, met to Ankur and then to Kumar and after this he to Dev and then to Pintu and whole the time he walked in a straight line, then how much total distance did he cover?
- (A) 215 m
(B) 155 m
(C) 245 m
(D) 185 m

Each of the following questions is based

on the following information: Six flats on a floor in two rows facing North and South are allotted to P, Q, R, S, T and U. Q gets a North facing flat and is not next to S. S and U get diagonally opposite flats. R next to U, gets a south facing flat and T gets North facing flat.

- 40.** If the flats of P and T are interchanged then whose flat will be next to that of U?
- (A) P
(B) Q
(C) R
(D) T
- 41.** Which of the following combination get south facing flats?
- (A) QTS
(B) UPT
(C) URP
(D) Data is inadequate
- 42.** The flats of which of the other pair than SU, is diagonally opposite to each other?
- (A) QP
(B) QR
(C) PT
(D) TS
- 43.** Whose flat is between Q and S?
- (A) T
(B) U
(C) R
(D) P

Each of the following questions is based on the following information: 8-trees → mango, guava, papaya, pomegranate, lemon, banana, raspberry and apple are in two rows 4 in each facing North and South. Lemon is between mango and apple but just opposite to guava. Banana is at one end of a line and is just next in the right of guava or either banana tree is just after guava tree. Raspberry tree which at one end of a line, is just diagonally opposite to mango tree.

- 44.** Which of the following statements is definitely true?
 (A) Papaya tree is just near to apple tree.
 (B) Apple tree is just next to lemon tree.
 (C) Raspberry tree is either left to Pomegranate or after.
 (D) Pomegranate tree is diagonally opposite to banana tree.
- 45.** Which tree is just opposite to raspberry tree?
 (A) Papaya
 (B) Pomegranate
 (C) Papaya or Pomegranate
 (D) Data is inadequate
- 46.** Which tree is just opposite to banana tree?
 (A) Mango
 (B) Pomegranate
 (C) Papaya
 (D) Data is inadequate
- Each of the following questions is based on the following information:**
- 1) A # B means B is at 1 meter to the right of
 - 2) A \$ B means B is at 1 meter to the North of
 - 3) A * B means B is at 1 meter to the left of
 - 4) A @ B means B is at 1 meter to the south of
 - 5) In each question first person from the left is facing North.
- 47.** According to X @ B * P, P is in which direction with respect to X?
 (A) North
 (B) South
 (C) North-East
 (D) South-West
- 48.** According to M # N \$ T, T is in which direction with respect to M?
 (A) North-West
 (B) North-East
 (C) South-West
 (D) South-East
- 49.** According to P # R \$ A * U, in which direction is U with respect to P?
 (A) East
 (B) West
 (C) North
 (D) South
- 50.** Siva Reddy walked 2 km west of his house and then turned south covering 4 km. Finally, He moved 3 km towards east and then again 1 km west. How far is he from his initial position?
 (A) 10 km
 (B) 9 km
 (C) 2 km
 (D) 4 km
- 51.** A man walks 6 km to the east and then turn to the south 2 km. Again he turns to the east and walks 2 km. Next he turns northwards and walks 8 km. How far is he now from his starting point?
 (A) 18 km
 (B) 10 km
 (C) 16 km
 (D) 12 km
- 52.** Rajesh's school bus is facing North when reaches his school. After starting from Rajesh's house, it turning twice and then left before reaching the school. What direction the bus facing when it left the bus stop in front of Rajesh's house?
 (A) East
 (B) North
 (C) South
 (D) West

- 53.** Anil wants to go the university. He starts from his house which is in the East and comes to a crossing. The road to his left ends in a theatre, straight ahead is the hospital. In which direction is the University?
- (A) East
(B) North
(C) South
(D) West
- 54.** If South-East becomes North, North-East becomes West and so on, what will West become?
- (A) North
(B) East
(C) South-East
(D) North-West
- 55.** Kumar walks 10 meters in front and 10 meters to the right. Then every time turning to his left he walks 5, 15 and 15 meters respectively. How far is he now from his starting point?
- (A) 15m
(B) 10m
(C) 12m
(D) 5m
- 56.** The time on the watch is quarter to three. If the minute-hand points to North-East, in which direction does the hour hand point?
- (A) South-West
(B) South-East
(C) North-West
(D) North-East
- 57.** Starting from a point X, Ravi walked 20 m towards South. He turned left and walked 30m. He then turned left and walked 20 m. He again turned left and walked 40 m and reached at a point Y. How far and in which direction is the point Y from the point X?
- (A) 5m East of X
(B) 10m West of X
(C) 15m West of X
(D) 10m East of X
- 58.** Lakshman went 15 kms to the West of his house, then turned left and walked 20 kms. He then turned East and walked 25 kms and finally turning left covered 20 kms. How far was he from his house?
- (A) 5 kms
(B) 10 kms
(C) 40 kms
(D) 80 kms
- 59.** Ravi started walking towards North. After walking 30 m, he turned left and walked 40 m. He then turned left and walked 30 m. He again turned left and walked 50 m. How far was he from his original position?
- (A) 50m
(B) 30m
(C) 10m
(D) 60m
- 60.** A man walks 30 m towards south. Then, turning to his right, he walks 30 m. Then, turning to his left, he walks 20 m. Again, he turns to his left and walks 30 m. How far is he from his initial position?
- (A) 30m
(B) 35m
(C) 50m
(D) 60m
- 61.** Starting from a Point X, Ramu walked 20 m towards South. He turned left and walked 30 m. He then turned left and walked 20 m. He again turned left and walked 40 m and reached a point Y. How far and in which direction is the point Y from the point X?
- (A) 20 m West
(B) 10 m East

- (C) 10 m North
(D) 10 m West
62. Going 50m to the south of her house, Latha turns left and goes another 20m. Then, turning to the North, she goes 30m and then starts walking to her house. In which direction is she walking now?
(A) North-West
(B) North
(C) South-East
(D) East
63. Sahithi who is facing South turns to her left and walks 15 m, then she turns to her left and walks 7m, then facing West she walks 15m. How far is she from her original position?
(A) 10m
(B) 7m
(C) 30m
(D) 15m
64. A, B, C and D are playing cards. A and B are partners. D faces towards North. If A faces towards West, then who faces towards south?
(A) C
(B) B
(C) D
(D) E
65. Six persons A, B, C, D, E and F are standing in a circle. B is between D and C. A is between E and C. F is to the right side of D. Who is between A and F?
(A) B
(B) D
(C) C
(D) E
66. B is to the South-West of A, C is to the East of B and South-East of A and D is to the north of C in line with BA. In which direction of A is D located?
(A) East
(B) North
(C) South-East
(D) North-east
67. A watch reads 4.30, If the minute hand points East, in what direction will be the hour hand point?
(A) South-East
(B) North-East
(C) North
(D) North-west
68. Ravi travelled 4km straight towards south. He turned left and travelled 6km straight, then turned right and travelled 4km straight. How far is he from the starting point?
(A) 8km
(B) 10km
(C) 12km
(D) 18km
69. Ramya walks towards northwest for 5km. Then she walks 3km towards east and is just above. Where she started then she moved 7km North. How far is she from her original position?
(A) 12km
(B) 17km
(C) 15km
(D) 11km
70. Ramesh walks 30 m towards south. Then turning to his right he walks 30m. Then turning to his left he walks 20m. Again turning to his left he walks 30m. How far is he from his starting position?
(A) 30m
(B) 20m
(C) 50m
(D) None of these

- 71.** A walks 10 m in front and 10m to the right. Then every time turning to his left he walks 5, 15 and 15m respectively. How far is he now from his starting point?
- (A) 10m
(B) 20m
(C) 5m
(D) 15m
- 72.** A person walks facing north 10m and then he turns left and walks 5m. He again turns left and walks 10m. How far is he from his original position and towards which direction?
- (A) 20m South
(B) 15m West
(C) 10m East
(D) 5m West
- 73.** Anitha started from home and walked some distance towards North-East and then turned 90 degrees left. After some time she again turned 90 degrees left. In what direction is she walking now?
- (A) North-West
(B) South-West
(C) South
(D) West
- 74.** Amar was facing North. He turns right and walks 20m. Then he turns again and walks 10m. Then he turns right again and walks 60m. In which direction is he from the starting point?
- (A) North
(B) North-East
(C) North-West
(D) East
- 75.** A man starts walking in the morning facing the sun. After some time, he turned to his left. Later he again turned to his left. The direction in which the man is moving now is:
- (A) South
(B) North
(C) East
(D) West
- 76.** Raghu travelled 3km southwards, then turned right and travelled 5km. Then again turned right and travelled 7km. In which direction was he travelling last?
- (A) South
(B) North
(C) East
(D) West
- 77.** Sunil started walking from a point P towards South. After walking 40m, he took a right turn. He then walked 30m and reached a point Q. What is the straight line distance between P and Q, and Q is towards which direction of P?
- (A) 60 meters, South east
(B) 50 meters, South West
(C) 50 meters, South east
(D) None of these

Definition 10.9 Answer key

72. D 73. B 74. B 75. D 76. C 77. C

10.5 Situation reaction test

Situation reaction is the test of candidate's common sense, he/she will be given some situations that occur in daily life and their answer will help the Psychologist to judge candidate's mentality. Situation Reaction Test tends to determine behavioral tendencies, assessing how a candidate will behave in a certain situation, and knowledge instruction, which evaluates the effectiveness of possible responses. For example, just think if you are going to appear in a test, and on the way you

find an injured person. In this situation, what will you do? So, at anytime we can face such problems. The candidate is, thus, expected to choose the best response which shall present him/her as a good person or a sincere professional. Such questions consist of four probable answers as alternatives. You have to select the most appropriate alternative as the answer.

Definition 10.10 Tips for Situation Reaction Test

Provide sensible and practical solution, avoid quick jump on conclusion.

- Use proper punctuation and pauses in the sentence. Assessor has to see that you know what you are writing, so avoiding silly mistakes will give a good impression.
- On similar kind of situation it's better to answer with same type answers, providing different answers for similar kind of situation will show the assessors that you are not confident on your views.
- Do not skip a situation in between, it projects that you are trying to run away from that situation.
- Bear in mind that you are not being judge on right or wrong answer but you are being judged on your evaluation capability of a situation. Keep a different mind-set, this test is nothing like your regular classroom tests.

Example 21 In a bus you realize that someone has left his/her wallet. You would

- (A) give the money to the beggar
- (B) hand it over to the bus conductor
- (C) try to find his/her contact number and inform the owner
- (D) leave the wallet as it is

Solution— If you are an honest man then, you will try to find his/her contact number and inform the owner of the wallet. In this way, that wallet will be reached in right hands. So option (c) is our answer.

Example 22 Do you think that one should change his job often and face new situation?

- (A) No, unless compelled one should not leave his old job
- (B) Yes, every new job is challenging and one should accept the challenge
- (C) No, as it takes time to get adjusted
- (D) No, as the new situation may not suit you

Solution— Most appropriate answer will be option (b). Because every new job is challenging and one should accept the challenge. Unless you accept the challenges you can not get different views of life

Example 23 While traveling in a train, you observe some college students pulling the alarm chain simply to get down at their desired point. You would

- (A) with the help of some passengers, check them from doing so
- (B) let them pull the chain but check them from detraining
- (C) inform the guard of the train as soon as it stops
- (D) keep quiet and do nothing

Solution— Most appropriate option in this situation will be as in option (a). In this case, train will not be late. And others will not have to bear problems. As a good citizen, it is your duty to check such situations

Example 24 You want to get married to a person of your choice, but your family members give their own reasons, why you should not marry that person which you do not find very convincing. What would you do?

- (A) Go by what your family says
- (B) Become thoroughly confused and still remain undecided
- (C) Marry the person of your choice
- (D) Try to convince your family about your choice

Solution— Since, the person concerned does not find the views of the family members convincing, he should try to convince them and mould their views to match his own. Just following his own choice shall hurt the family's sentiments and obeying the family members blindly shall be disloyalty towards the person he loves. In this way the best way to settle a conflict is always to arrive at a consensus through peaceful talks and mutual discussions rather than stick to any one side and ignore the other.

Example 25 You are a team leader and two of your colleagues are having a strained relationship with each other. As a result, they are not contributing well in group activities. How will you handle such a situation?

(A) How can I be bothered with such petty issues? At least the task is being done by others; so it is fine

(B) You will make an explicit effort to help them shake hands

(C) You will give them complementary tasks in which both have to work together

(D) You will punish them for not contributing by keeping them out of the team

Solution— As both your colleagues are having a strained relationship with each other, they are not contributing well in group activities. But you are a team leader. So, it is your responsibility that work should be done in good manner and in time. It can be possible if both your colleagues do works together. In this case, you should make an explicit effort to help them shake hands.

Example 26 You are in a bus. The bus reaches your stop but still you have not purchased the ticket because of heavy rush. What will you do ?

(A) Jump out quickly to avoid embarrassment.

(B) call the conductor, give him the money and get the ticket.

(C) Hand the money to someone sitting nearby to give it to the conductor

(D) Give the money to the driver.

Solution— call the conductor, give him the money and get the ticket

Example 27 While traveling in a train, you observe some college students pulling the alarm chain simply to get down at their desired point. You would :

(A) with the help of some passengers, check them from doing so

(B) let them pull the chain but check them from detraining.

(C) inform the guard of the train as soon as it stops.

(D) keep quiet and do nothing

Solution— with the help of some passengers, check them from doing so

Example 28 You are passing by a river and you know swimming. Suddenly, you hear the cry of a drowning child. You would :

(A) dive into the river to save him.

(B) wait to see if some other person is there to help

(C) look for professional divers

(D) console the child's parents.

Solution— dive into the river to save him.

Example 29 If you find yourself in a situation where you are required to make a power - point presentation and you are already bogged down by too much work, as the manager what would you do?

(A) Take an alternative mode of presentation

(B) Cancel the seminar and reschedule according to your convenience

(C) Pass the buck to your subordinate, you are the boss, no one can question you

(D) Prioritise your work and try to squeeze out time for it

Solution— A manager is one who has the expertise to manage tasks properly. So, it becomes his prime responsibility to rearrange his work schedule properly and work out the required time for the project rather than postpone it or hand it over to some one else.

Definition 10.11 Rules and regulations

When hero is faced by a single man, use the words- overpowered him.

- Hero alone faced by group of people, use the words- tactfully persuaded them.
- Hero along with a group is faced by another group, use the words- overpowered them.
- In case of serious illness, use the words- called the doctor and in normal case- sent the patient to nearby hospital.
- Never kill the dangerous reptile if it is going towards its natural habitat. Use the words- Let it go. In other case, if it is coming towards you then use- killed it.

10.6 Exercises

1. You are playing football in a park. When you kick the ball, it strikes and breaks the window pane of a nearby house. You would :
 - (A) demand your ball back from the house owner.
 - (B) say that it was no fault of yours.
 - (C) stealthily get your ball back.
 - (D) apologize to the house owner and contribute to replace the glass.
2. If in the examination hall, you find that the question paper is too tough to be answered satisfactorily by you, the best thing to do for you is to :
 - (A) tell the examiner that the questions are out of course.
 - (B) provoke the candidates to walk out of the examination hall.
 - (C) try to know something from your neighbor.
 - (D) try to solve the questions as much as you know with a cool head.
3. You are returning home from school. On the way, you find a sealed envelope in a street, fully addressed with unused stamps on it You would :
 - (A) leave it there as it was and walk away
 - (B) remove the stamps and destroy the envelope.
 - (C) open the envelope, find out who has dropped it by mistake, and send it to him if possible.
 - (D) post it at the nearest letter box.
4. You are interviewed for a new job. Which of the following is most important to you ?
 - (A) Opportunities for promotion
 - (B) Remuneration you will be paid
 - (C) Scope to develop your ideas and use them to improve the working of the organization
 - (D) All the above are equally important
5. You find that the person whom you call your friend has been cheating you. what would you do ?
 - (A) Break relations with him.
 - (B) Give him tit for tat
 - (C) Make him realize his mistake
 - (D) Tell other friends about him.
6. An Angry customer wants to meet the senior manager for grievance reporting. What will you do?
 - (A) Talk to him yourself
 - (B) Be patient and try to cool him down
 - (C) Try to remove his inconveniences by consulting seniors
 - (D) Tell him it is not easy to meet the senior manager

- 7.** You are a sincere and dedicated manager in a reputed five-star hotel. You have been appointed as the Chief Manager of the Guwahati branch which needs to be developed. Your Salary has been hiked.
- (A) You give it a shot for 2 months and see how it goes
(B) You accept the challenge and go ahead with the project
(C) You accept another offer and leave the job
(D) You crib for limited resources and try to convince the superior to send somebody else instead of
- 8.** You are walking down the street and suddenly you see two hundred rupee notes on the pavement. What action will you take?
- (A) Pocket it yourself.
(B) Leave it where it is.
(C) Give the money to a beggar.
(D) Deposit it in the nearest police station
- 9.** You have made some silly mistakes which have been pointed out to you. You will :
- (A) laugh it away.
(B) get angry.
(C) feel miserable.
(D) feel thankful.
- 10.** You are moving across the road on a scooter when you observe that two boys on a bike snatch a lady's gold chain and ride away. You would :
- (A) console the woman.
(B) chase the
(C) inform the police about the matter. boys to catch hold of them.
(D) stand and see what happens next.
- 11.** On reaching the railway station, you find that the train you wanted to catch is just to start and there is hardly any time for purchasing the ticket. The best thing for you is to :
- (A) rush to the train rather than miss it and inform the T.T.I. at the next stoppage about your inability to purchase the ticket.
(B) rush to the train and perform your journey quietly.
(C) first purchase the ticket and then catch the train if it is there.
(D) miss the train rather than take the risk of boarding the moving train.
- 12.** You are returning home from school. On the way, you find a sealed envelope in a street, fully addressed with unused stamps on it. You would :
- (A) leave it there as it was and walk away.
(B) remove the stamps and destroy the envelope.
(C) open the envelope, find out who has dropped it by mistake, and send it to him if possible.
(D) post it at the nearest letter box.
- 13.** If in the examination hall, you find that the question paper is too tough to be answered satisfactorily by you, the best thing to do for you is to :
- (A) tell the examiner that the questions are out of course.
(B) provoke the candidates to walk out of the examination hall.
(C) try to know something from your neighbor.
(D) try to solve the questions as much as you know with a cool head.
- 14.** Your bathroom tap is leaking and is a constant source of irritating noise. You would :
- (A) sleep with pillows upon your ears.
(B) put a bucket underneath
(C) try to put up a cork upon the mouth of the tap.
(D) call a plumber to repair the tap.

- 15.** You find a lady's purse dropped on the road and on picking it up, find a thousand rupees inside. You would :
- (A) take the purse away.
 (B) take out the money and leave the purse there.
 (C) deposit it at the nearest police station.
 (D) stand there and wait for the owner.
- 16.** While sitting in a park, you observe that a smart young man comes to the place on a scooter, leaves it there and goes away with someone else on a motorbike. You would :
- (A) chase the person.
 (B) inform the police at the nearby booth.
 (C) call back the person.
 (D) remain engaged in your enjoyment.
- 17.** You are playing football in a park. When you kick the ball, it strikes and breaks the window pane of a nearby house. You would :
- (A) demand your ball back from the house owner.
 (B) say that it was no fault of yours.
 (C) stealthily get your ball back.
 (D) apologize to the house owner and contribute to replace the glass.
- 18.** You are in a bus. The bus reaches your stop but still you have not purchased the ticket because of heavy rush. What will you do?
- (A) Jump out quickly to avoid embarrassment.
 (B) Call the conductor, give him the money and get the ticket.
 (C) Hand the money to someone sitting nearby to give it to the conductor.
 (D) Give the money to the driver.
- 19.** While you board a train at the station, you find a suitcase beneath your seat. You would :
- (A) report the matter to the police.
 (B) open up the suitcase to look through its contents.
 (C) try to find out the address of the owner from the paper etc. in the suitcase.
 (D) finding no one to claim it, take it into the own possession.
- 20.** While firing crackers, a child gets severe burns on the hand. What would you do?
- (A) Dip the child's hands in cold water till there is no more burning sensation.
 (B) Wash the hands with dettol.
 (C) Send someone to call the doctor.
 (D) Apply some ointment on the affected area.
- 21.** You find that the person whom you call your friend has been cheating you. What would you do ?
- (A) Break relations with him.
 (B) Give him tit for tat.
 (C) Make him realize his mistake.
 (D) Tell other friends about him.
- 22.** While attending your friend's party, you see your friend's muffler catching fire from the candle on the table behind him. You would :
- (A) ask your friend to see behind him.
 (B) rush to call friend's mother.
 (C) rush and taking out the muffler from his neck, drop it and pour water on it.
 (D) take out the muffler and throw it away.
- 23.** Your friend is not invite you to his marriage party. You will :
- (A) hold it against him.
 (B) attend the ceremony.
 (C) send him your best wishes.
 (D) ignore the whole affair.

- 24.** While traveling in a train, you observe some college students pulling the alarm chain simply to get down at their desired point. You would :
- (A) with the help of some passengers , check them from doing so.
 - (B) let them pull the chain but check them from detraining.
 - (C) inform the guard of the train as soon as it stops.
 - (D) keep quite and do nothing.
- 25.** You are driving your car on the road when you hit against a fruit vendor's cart. You would :
- (A) escape from the site by driving away.
 - (B) abuse the fruit vendor for putting his cart on the way.
 - (C) pay the fruit vendor for the damage done to him.
 - (D) insist that it was not your fault.
- 26.** You are the guest at a dinner. The host asks you to take one more chapati after your stomach is full. You would :
- (A) make a blunt refuse.
 - (B) take the chapati.
 - (C) politely say that the food was too good and you have already eaten much.
 - (D) make a bad face at him.
- 27.** You are passing by a river and you know a swimming. suddenly, you hear the cry of the drowning child. You would :
- (A) dive into the river to save him.
 - (B) wait to see if some other person is there to help.
 - (C) look for professional drivers.
 - (D) console the child's parents.
- 28.** You are playing in your friend's house,when he gets stuck with a naked electric wire. You would :
- (A) hold him by the arms and try to set him free.
 - (B) hold the wire and pull it away.
 - (C) pull off the wire with a wooden stick.
 - (D) send for the doctor.
- 29.** You are interviewed for a new job. Which of the following questions is most important to you ?
- (A) Opportunities for promotion
 - (B) Remuneration you will be paid
 - (C) Scope to develop your ideas and use them to improve the working of the organization
 - (D) All the above are equally important
- 30.** You are alone in the house and there is quite a danger of thieves around. Just then, you hear a knock at the door. You would:
- (A) open the door to see who is there.
 - (B) first peep out from the window to confirm whether you know the person.
 - (C) not open the door.
 - (D) ask the servant to see who is there.
- 31.** You are living in the college hostel. The dal served to you in the mess has a lot of stones. What would you do ?
- (A) Leave eating the dal altogether.
 - (B) Bring the matter to the notice of mess in charge.
 - (C) Speak to the cook about changing the dal.
 - (D) Buy your own dal and cook it in your room.
- 32.** While traveling in a train, you notice a man from the coach behind yours fall off the train . You would :
- (A) pull the alarm chain so that the train may stop and the man may be helped.
 - (B) shout at the falling man asking him to get up quickly and entrain.

- (C) jump off the train to assist the falling man.
- (D) wait till the train stops at the next station and inform the railway authorities there.
- 33.** “No risk no gain”, you
- (A) feel that risk means no gain
- (B) believe that this slogan is correct
- (C) feel it is foolish to accept unnecessary risk
- (D) feel that risk may be taken only after judging the situation throughly.
- 34.** Your friends like smoking and influence you to do the same. You will
- (A) smoke only because your friends are smoking
- (B) refuse to smoke
- (C) smoke but only in their presence
- (D) refuse and lie to them that you have asthma
- 35.** You have a new boss. You
- (A) will be in different
- (B) welcome him warmly
- (C) go and flatter him as will help out in future
- (D) have problems adjusting as you are still loyal to your old boss
- 36.** You are getting late for your college and bus is not available. In such a situation
- (A) you start walking
- (B) you drop the idea of going to college that day and return home
- (C) you think about other possible conveyance
- (D) you wait patiently for the bus though you are late for the class
- 37.** If you are HR Manager of XYZ company and there is only one vacancy. There are three candidates to the post, one out of them is your nephew. You would
- (A) select your nephew though he is not eligible for the post
- (B) select the candidate who is eligible for the post
- (C) consult with senior what needs to be done
- (D) tell the candidate that vacancy is already fulfilled
- 38.** After having committed to your family that you would be taking them out on a vacation, you suddenly find yourself wanted in a board meeting which unfortunately clashes with the vacation. What would you do?
- (A) Assuming it to be urgent, start making necessary arrangement to ensure that the reason for the meeting is fulfilled, thus canceling the vacation
- (B) Find out what the urgent meeting is all about and make necessary arrangements and postpone your vacation
- (C) Proceed with your vacation plans without making any arrangement
- (D) Try and get out of that situation by asking your colleague to cover up for you.
- 39.** Your college has organized a blood donation camp. You
- (A) persuade your friends to donate
- (B) donate your blood at the camp
- (C) do not believe in donating blood and decide not to attend
- (D) yourself do not believe in donating blood but ask other to do so
- 40.** Your maid has invited you to her daughters wedding. You would
- (A) completely ignore her
- (B) attend the wedding
- (C) buy a gift for her daughter
- (D) congratulate her and make up some for not being able to attend.

- 41.** When you see a blind man trying to cross the road. You
- (A) ask someone to help him.
 - (B) go and help him
 - (C) wait till he crosses the road
 - (D) ignore and move in
- 42.** If you are a manager and one of your employees is not working properly, as a manager you would
- (A) fine him
 - (B) give the man two weeks to improve
 - (C) try to develop the man's abilities and interest in another job
 - (D) talk to him and try to find out his problem
- 43.** You are suffering from diabetes, when you see a whole lot of chocolates, you are tempted to eat them. But you also realize that they are not good for you in the long run. What do you do?
- (A) You would not eat them because you know the harmful effects
 - (B) You decide not to eat them but keep thinking about them
 - (C) You would eat them but feel guilty about what you have done
 - (D) You would give into the temptation and eat the chocolates without being bothered about the consequences
- 44.** You have four options of job. You would
- (A) choose the higher salary
 - (B) choose the job where you can utilize your skills
 - (C) choose the one which gives you chance to go abroad
 - (D) choose the one which has surety that it cannot be snatched from you
- 45.** Your boss has given you some urgent assignment at the end hour. What would you do?
- (A) Try to finish the job as per its requirement
 - (B) Tell him that you would do it next day
 - (C) Request one of your colleagues to help you
 - (D) None of the above
- 46.** You are a social worker. On visiting an orphanage, there is one child who is not ready to let you go away,
- (A) you ignore the child because you have other kids to attend
 - (B) you leave with no concern
 - (C) you decide to visit him every Sunday
 - (D) you talk to the authorities and arrange for parents who can adopt him ,
- 47.** After your graduation, you are offered a well paid government job. However, your friend says that you have to bribe to get the appointment order. You
- (A) go to some influential politician who can help
 - (B) accept the job by paying the bribe, consoling yourself that this is the present social setup
 - (C) accept the job by paying the bribe, but firmly resolve that this is the last time you will pay bribe
 - (D) flatly refuse the offer
- 48.** You
- (A) get setup when others do not behave properly
 - (B) are at least interested about what others are thinking about you
 - (C) can keep your face smiling even when you are terribly disgusted
 - (D) feel that you should not conceal your attitude from others
- 49.** If you find yourself in a situation where you are required to make a power-point presentation and you are already bogged

- down by too work, as the manager what would you do?
- (A) Take an alternative mode of presentation
- (B) Cancel the seminar and reschedule according to your convenience
- (C) Pass the buck to your subordinate, you are the boss, no one can question you
- (D) Prioritize your work and try to squeeze out time for it
- 50.** You are alone in the house and your sister-in-law is suddenly experiencing labour pains, you
- (A) would definitely get upset and do not know what is the right step
- (B) go out of the house to call your family doctor
- (C) walk her to the nearest hospital
- (D) call an ambulance for emergency
- 51.** When you get angry, you usually
- (A) throw things
- (B) withdraw yourself and start crying
- (C) leave the situation and engage yourself in a different activity
- (D) None of the above
- 52.** While traveling in your car, certain persons stop you on the way asking you to take an injured child to the hospital. You would
- (A) ask them to leave your way and then drive away
- (B) ask them to first call the police
- (C) immediate take the child to hospital
- (D) get out of the car and ask some other person to help them

Definition 10.12 Answer key

49. D 50. D 51. C 52. D

10.7 Truth verification

Logic is a language for reasoning it is a collection of rules we use when doing logical reasoning. Human reasoning has been observed over centuries from at least the times of Greeks, and patterns appearing in reasoning have been extracted, abstracted, and streamlined. The foundation of the logic we are going to learn here was laid down by a British mathematician George Boole in the middle of the 19th century, and it was further developed and used in an attempt to derive all of mathematics by Gottlob Fregea German mathematician, towards the end of the 19th century. A British philosopher/mathematician, Bertrand Russell, found a flaw in basic assumptions in Frege's attempt but he, together with Alfred Whitehead, developed Frege's work further and repaired the damage. The logic we study today is more or less along this line.

There are various types of logic such as logic of sentences (propositional logic), logic of objects (predicate logic), logic involving uncertainties, logic dealing with fuzziness, temporal logic etc. Here we are going to be concerned with propositional logic and predicate logic, which are fundamental to all types of logic.

10.7.1 What is an Argument?

Logic is concerned with the validity of arguments. So, what is an argument?. An argument is a connected series of statement, called premises, intended to establish a proposition, called conclusion. Logic can be thought of as the science of arguments, and in particular is concerned With a key property that some arguments possess: validity. Some arguments are valid and some are invalid. why is this? This is the topic of logic. We write arguments in the following way. It never matters

what order the premises are in.

$$\frac{\text{If it is snowing, then it is cold outside.} \quad \text{It is snowing}}{\text{Therefore, it is cold outside}}$$

10.7.1.1 Valid argument

A valid argument is an argument that has no counterexamples. An invalid argument is an argument that's not valid. Note that it does not make sense to say a statement is valid. Validity is an attribute of arguments only. Individual statements can be true or false, but they cannot be valid or invalid. For example the below argument is valid one.

Premise 1	If it is raining, then Grass are wet.
Premise 2	It is Raining
Conclusion	Therefore, grass are wet

Above argument is a valid one. We will later see that this is famous modes ponens rule in natural deduction. Any argument of the form as below one is a valid argument.

$$\frac{\alpha \text{ and } \beta.}{\text{Thus, } \alpha}$$

$$\frac{\text{Because } \delta, \text{ it isn't so that } \Gamma}{\text{Thus, } \Gamma}$$

$$\frac{\text{It is crazy to believe that } \beta. \quad \text{It is possible that } \alpha.}{\text{Thus, it is likely that } \alpha, \text{ but } \beta.}$$

$$\frac{\alpha \text{ but } \beta.}{\text{Thus, } \beta}$$

$$\frac{\alpha. \quad \beta.}{\text{Thus, } \alpha \text{ and } \beta}$$

$$\frac{\alpha \text{ or } \beta. \quad \text{It is not the case that } \alpha.}{\text{Thus, } \beta}$$

$$\frac{\text{If } \alpha, \text{ then } \beta. \quad \alpha.}{\text{Thus, } \beta}$$

$$\frac{\alpha \text{ unless } \beta. \quad \text{It is not the case that } \beta}{\text{Thus, } \alpha}$$

Wrong definition of Validity:

The below interpretation of counter example is wrong. By valid we mean that the collusion of the argument must follow from the truth of the premises of the argument. An argument is valid if and only if it is impossible for all the premises to be true and the conclusion to be false.

- A valid argument is a case where the premises are true and the conclusion is true as well.
- A valid argument is a case where the premises are true and therefore the conclusion has to be true.
- A valid argument is an argument where if the premises are true, then the conclusion is true.
- A valid argument is an argument where the premises are true and the conclusion can't be false.
- An argument is valid only when it has no counterexamples.
- An argument is valid if and only if it is not invalid.

An argument is sound when it is valid and all its all premises are true. Sound arguments always have true conclusions

A rough test for validity

Here is the mechanical way to test the validity of any argument. You try it your self

1. First imagines that the premises are true—whether or not they actually are.
2. Ask yourself, without appealing to any other knowledge you have, could you still imagine the conclusion being false?
3. If you can, the argument is invalid. If you can't, then the argument is valid

A deductive argument is one in which our intention is the evidence to be so strong that it is impossible for the premises to be true and the conclusion false, or the conclusion follows necessarily from the premises.

An inductive argument is one in which the our intention is the evidence only to be so strong that it is impossible that the premises could be true and the conclusion false, or the conclusion is likely true if the premises are true. Below are the possible relation between premises and conclusion.

Premises	Conclusion	Valid	Invalid
TRUE	TRUE	Possible	Possible
TRUE	FALSE	Impossible	Possible
FALSE	TRUE	Possible	Possible
FALSE	FALSE	Possible	Possible

10.7.1.2 Introduction to Syllogism

A syllogism is a kind of logical argument in which one proposition (the conclusion) is inferred from two or more others (the premises). There are two main types of Syllogism question.

1. Two Statement Syllogism
2. Three Statement Syllogism

Example 30 Here is an example of two statement Syllogism

Premise 1	All cats are dogs
Premise 2	All dogs are birds
Conclusion	I) Grass are wet II) Some birds are cats

Example 31 Here is an example of three statement Syllogism

Premise 1	All cats are dogs
Premise 2	some pigs are cats
Premise 3	no dogs are birds
Conclusion	I) some cats are dogs II) no birds are cats III) some pigs are birds IV) some pigs are not birds

Subject vs Predicate

Consider this question statement

1. All cats are dogs
2. Some dogs are birds
3. No bird is a pig
4. Some pigs are not birds.

In all such statements, first-term is called subject and second is called predicate.

	Subject	Predicate
1. All cats are dogs	Cats	Dogs
2. Some dogs are birds	Dogs	Birds
3. No bird is a pig	Bird	Pig
4. Some pigs are not birds.	Pigs	Birds

Classification of statement

In syllogism, each statement usually has following format

abc subject is/are (not) predicate

<i>abc</i>	Subject	Is/are (+/-not)	Predicate
All	Cats	Are	Dogs
Some	Pigs	Are not	birds

Based on *abc* and "not", we classify the statements as following

Statement	Type	Codename
1. All cats are dogs	Universal Positive	UP
2. Some dogs are birds	Particular Positive	PP
3. No bird is a pig	Universal Negative	UN
4. Some pigs are not birds.	Particular Negative	PN

Please remember following words. Whenever they come, you classify the statement accordingly.

All, every, any, none, not a single, only etc.	Universal (positive or negative)
Some, many, a few, quite a few, not many, very little, most of, almost, generally, often, frequently, etc.	Particular (positive or negative)

10.7.2 Standard format conversion

Basically, a syllogism (we consider 2 premise syllogism here) should have the following basic form:

1. (*abc*) "A" is/are (+/- not) "B"
2. (*abc*) "B" is/are (+/- not) "C"

So basically it is

1. $A \rightarrow B$
2. $B \rightarrow C$

Read as "A to B then B to C". If it is not, then it needs to be converted to the above format. Question statements must have ONLY three terms. (A, B and C). In the exam, if they give you two question statements with four terms then your time is saved! Just tick the answer "no conclusion can be drawn"

Example 32 Consider the following

1. All cats are Dogs
2. Some birds are pigs
- (A) All Dogs are cat
- (B) All Birds are dog
- (C) All Pigs are bird
- (D) No clusion can be drawn

Solution— No conclusion can be drawn. Because it has four terms (cats, dogs, birds, pigs)

The standard format for question statements is

1. $A \rightarrow B$
2. $B \rightarrow C$

But if the given question statements are not given in this format, then we must convert them into above format. Otherwise we cannot proceed with answer. Suppose Given question statements are

1. $A \rightarrow B$
2. $C \rightarrow B$

This must be converted into

1. $A \rightarrow B$
2. $B \rightarrow C$

If Given question statements are

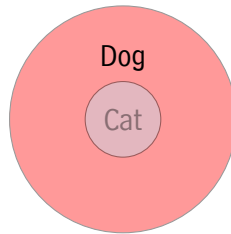
1. $B \rightarrow A$
2. $B \rightarrow C$

This must be converted into

1. $A \rightarrow B$
2. $B \rightarrow C$

Ok, so how to convert the statements?

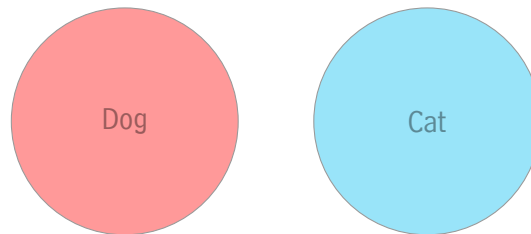
Universal positive (UP) conversion		
Given Statement	Valid conversions	Type
All Cats are Dogs	Some Cats are dogs	Particular Positive (PP)
	Some dogs are cats	Particular Positive (PP)



It means UP can be converted into PP. Suppose the given statement is “ Only pigs are goat” then it is better to convert is “ All goat are pigs”.

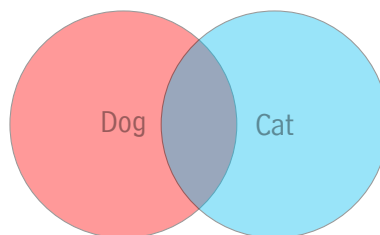
Only x is y means all y are x

Universal Negative (UN) conversion		
Given Statement	Valid conversions	Type
No Cats are Dogs	Some dogs are not cats	Particular Negative (PN)
	No dogs are cats	Universal Negative (UN)



It means UN can be converted into PN or UN.

Particular Positive (PP) conversion		
Given Statement	Valid conversions	Type
Some Cats are Dogs	Some dogs are cats	Particular Positive (PP)



It means PP can be converted into PP only.

Some Cats are not Dogs. In Particular negative statements (PN), no conversion can be made.

Conversion rules	
Type	Valid Conversion
Universal Positive (UP)	Only PP
Universal Negative (UN)	PN or UN
Particular Positive (PP)	Only PP
Particular Negative (PN)	Not possible.

Example 33 What can be concluded from the given statement: "Some Politicians are honest men."

- (A) Some Honest men are not Politicians.
- (B) All Honest men are not politician
- (C) Some Honest men are politicians.
- (D) None of Above.

Solution— According to our table, it can be converted into PP only. Particular Positive (PP) statement can be converted into Particular Positive (PP) statement only. SO C is correct choice.

The standard question format is

1. $A \rightarrow B$
2. $B \rightarrow C$

If the given question doesn't have statements in above standard format, then we must convert them into standard format. Only then we can proceed further.

Example 34 Consider below statements

1. All Cats are dogs
2. All pigs are dogs

We have to convert it, because it is not in standard format

1. All Cats(A) are dogs (B) $A \rightarrow B$
2. Some dogs(B) are pigs(C). $B \rightarrow C$ (Rule UP \rightarrow only PP)

Here are the non-conclusion combos when two question statements are in following format

No conclusion Combos		
First statement ($A \rightarrow B$)	Second statement ($B \rightarrow C$)	Answer
Universal Positive (UP)	Particular Positive (PP)	No conclusion
	Particular Negative (PN)	No conclusion
Universal Negative (UN)	Universal Negative (UN)	No conclusion
	Particular Negative (PN)	No conclusion
Particular Positive (PP)	Particular Positive (PP)	No conclusion
	Particular Negative (PN)	No conclusion
Particular Negative (PN)	Any other (UP, UN, PP, PN)	No conclusion

Definition 10.13 Some rules to remember it

1. Ramesh from UP hate giving particular statements (both positive and negative).
2. United Nations hates negativity. (both Universal and particular)
3. Parminder Nandy hates everybody.
4. Two-negatives=no conclusion.
5. Two particulars=no conclusion.

When you face a “two-statement syllogism question”. you should follow these steps:

1. First, make sure it contains only three terms (ABC) (else no conclusion.)
2. Make sure question statements are in standard format (A to B then B to C). If not in standard format, then re-arrange.
3. Classify the question statements. (UP, UN, PP, PN)
4. Check if the question statements have no conclusion combos

If above things do not yield an answer, then we have to think about what will be the “conclusion(s)”?

In below table answer statement is usually in the format of $A \rightarrow C$

Other Combos	
UP + UP = UP	If Uttar Pradesh meets Uttar Pradesh, then its size remains same.
UP + UN = UN	If Uttar Pradesh meets United Nations then its size increases and it becomes United Nations.
UN + (UP/PP) = PN	United Nations Secretary Ban Ki Moon from South Korea is in very positive mood. But he meets another positive person, and his attitude is totally reversed. i.e he becomes particularly negative! (reversed $C \rightarrow A$)
PP + (UP/UN) = PP/PN	When Ms.Parminder Pratap observes the universe via NASA telescope, her mood becomes positive or negative depending on the mood of universe.

Example 35 Consider below statement

- a) All men are women.
- b) All women are crazy.

Conclusion

1. All Men are crazy
 2. All the crazy are men
 3. Some of the crazy are men
 4. Some of the crazy are women
- (A) None of the conclusion follows
 (B) All conclusions follow
 (C) Only 1, 3 and 4 follow
 (D) Only 2 and 3 follow

Solution— First step is to make sure four terms are not given .Only three terms (men, women, crazy) is given . Second step, make sure all terms are in standard format (A to B and then B to C): Here conversion is not required.

All men(A) are women. (B))	$A \rightarrow B$
All women(B) are crazy.(C)	$B \rightarrow C$

Third step, classify the statements.

All men are women.	Universal Positive (UP)
All women are crazy.	Universal Positive (UP)

Fourth step: check the combo for question statements. Well, since it is UP+UP= its size doesn't increase. Hence conclusion should be UP. ($A \rightarrow C$) meaning All men(A) are crazy.(C). Check the answer statements one by one.

All Men are crazy	Correct.
All the crazy are men	Recall that "conversion table". Universal Positive (UP) can be converted only into Particular Positive (PP). Since All men are crazy \rightarrow Some Crazy are men. But we cannot say All crazy are men. So this option is false.
Some of the crazy are men	Correct if we apply "conversion table"
Some of the crazy are women	All women are crazy. (Universal positive). If we apply conversion table ($UP \rightarrow PP$) then Some Crazy are women. Hence this statement is also correct.

10.7.3 Forceful argument

In this type of questions, a Statement (usually an interrogative sentence) in the form of a suggested course of action is followed by two arguments. One argument generally Supports the given Statement (or suggested course of action) by pointing out some positive features or positive results of that action while the second argument denies the Statement or argues against it by pointing out the negative features or deleterious effect/result of that action. In order to determine the forcefulness of the arguments we have to decide whether the argument is perfect or not. If an argument is hundred per cent perfect, it would be forceful.

Definition 10.14 Points to remember

The argument should not be just an opinion. It must answer one of the questions—Why, How, When, What—of the Statement. Otherwise it is not an argument.

2. An argument also depends on the language used because by changing a few words we can make a weak argument forceful.
3. The argument must be judged as an argument and not with what somebody or newspapers say (s).
4. If some one is quoted in support of the Statement it cannot be a forceful argument.
5. If an argument is an assumption. (That is. if it assumes something to be true whereas in reality it may or may not be true, the argument cannot be forceful.
6. An ambiguous argument cannot be forceful. The argument must be clear in meaning otherwise it may not be forceful or strong. An ambiguous argument leaves a doubtful and confused impression.
7. If the argument is in form of a simple sentence lacking any facts or established notions which is not ambiguous can not be forceful. Such argument shows proper relation with the Statement but due to its simplicity, it cannot be considered a forceful or strong argument.

8. If the argument is superfluous and only glances at the theme without making an indepth analysis of the facts or information, the argument cannot be forceful
1. Should we follow non-alignment as foreign policy ?
(A) Yes (B) No
 2. Is child the father of man ?
(A) Yes (B) No
 3. Should school teachers be banned to take any private tuitions ?
(A) Yes (B) No
 4. Should education be made compulsory for all children upto the age of 14 ?
(A) Yes, This would improve the Standard of living. (B) No
 5. Should terminal examination in India's present present education system be abolished altogether.
(A) Yes, it has outlived altogether (B) No
 6. Should open book examinations be introduced for professional courses in India
(A) Yes, All candidates can pass easily and can start their professional life (B) No

10.7.3.1 Weak arguments

Weak argument are those which are of minor importance and also may not be directly related to the Statement or may be related to a trivial aspect of the question/statement. You can declare an argument as weak on the basis of the following ground

Definition 10.15 Points to remember for weak argument

- If it is an established fact that such a result as mentioned in the argument would not follow an action suggested in the Statement.
2. If experiences predict that the result. will not follow
 3. If logically the result is not probable. That means. if we analyse the result and it does not appear to be logicaly sound.
 4. An argument should not be factually incorrect. The argument must not violate the prevailing notion of truth or ideas. An argument can be rejected if it violates the previous notion of truth.
 5. Sometimes an argument Supports an action on the basis of consequences which are not universally accepted and which are not logically sound. Such an argument can only be described as the assumption or individual perception of the Speaker . In no case such an

argument be forceful.

Strong arguments have logical and clear reasons that directly support the claim.

10.8 Solved exercises

1. Statement — Should India encourage exports, when most things are insufficient for internal use itself?

Arguments —

- I) Yes. We have to earn foreign exchange to pay for our imports.
- II) No. Even selective encouragement would lead to shortages.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Neither I nor II is strong

2. Statement — Should all the drugs patented and manufactured in Western countries be first tried out on sample basis before giving licence for sale to general public in India?

Arguments —

- I) Yes. Many such drugs require different doses and duration for Indian population and hence it is necessary.
- II) No. This is just not feasible and hence cannot be implemented.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Both I and II are strong

3. Statement — Should India make efforts to harness solar energy to fulfil its energy requirements?

Arguments —

- I) Yes, Most of the energy sources used at present is exhaustible.
- II) No. Harnessing solar energy requires a lot of capital, which India lacks in.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Neither I nor II is strong

4. Statement — Should there be students union in college/university?

Arguments —

- I) No. This will create a political atmosphere in the campus.
- II) Yes, it is very necessary. Students are future political leaders.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Neither I nor II is strong
- (D) Both I and II are strong

5. Statement — Should India give away Kashmir to Pakistan?

Arguments —

- I) No. Kashmir is a beautiful state. It earns a lot of foreign exchange for India.
- II) Yes. This would help settle conflicts.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Both I and II are strong

6. Statement — Should cottage industries be encouraged in rural areas?

Arguments —

- I) Yes. Rural people are creative.
- II) Yes. This would help to solve the problem of unemployment to some extent.

- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
- 7. Statement —** Should young entrepreneurs be encouraged?
Arguments —
 I) Yes. They will help in industrial development of the country.
 II) Yes. They will reduce the burden on employment market.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Both I and II are strong
- 8. Statement —** Should all the annual examinations up to Std. V be abolished?
Arguments —
 I) Yes. The young students should not be burdened with such examinations which hampers their natural growth.
 II) No. The students will not study seriously as they will get automatic promotion to the next class and this will affect them in future.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Both I and II are strong
- 9. Statement —** Should Indian scientists working abroad be called back to India?
Arguments —
 I) Yes. They must serve the motherland first and forget about discoveries, honours, facilities and all.
 II) No. We have enough talent; let them stay where they want.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
- 10. Statement —** Should we scrap the system of formal education beyond graduation?
Arguments —
 I) Yes. It will mean taking employment at an early date.
 II) No. It will mean lack of depth of knowledge.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
- 11. Statement —** Should there be an upper age limit of 65 years for contesting Parliamentary/ Legislative Assembly elections?
Arguments —
 I) Yes. Generally, people above the age of 65 lose their dynamism and will power.
 II) No. The life span is so increased that people remain physically and mentally active even up to the age of 80.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
- 12. Statement —** Should new big industries be started in Mumbai?
Arguments —
 I) Yes. It will create job opportunities.
 II) No. It will further add to the pollution of the city.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
- 13. Statement —** Should high chimneys be installed in industries?
Arguments —
 I) Yes. It reduces pollution at ground level.

- II) No. It increases pollution in upper atmosphere.
- (A) Only argument I is strong
(B) Only argument II is strong
(C) Either I or II is strong
(D) Both I and II are strong
- 14. Statement —** Does India need so many plans for development?
Arguments —
- I) Yes. Nothing can be achieved without proper planning.
II) No. Too much time, money and energy is wasted on planning.
- (A) Only argument I is strong
(B) Only argument II is strong
(C) Neither I nor II is strong
(D) Both I and II are strong
- 15. Statement —** Should articles of only deserving authors be allowed to be published?
Arguments —
- I) Yes. It will save a lot of paper which is in short supply.
II) No. It is not possible to draw a line between the deserving and the undeserving.
- (A) Only argument I is strong
(B) Only argument II is strong
(C) Either I or II is strong
(D) Both I and II are strong
- 16. Statement —** Should colleges be given the status of a university in India?
Arguments —
- I) Yes. Colleges are in a better position to assess the student's performance and therefore the degrees will be more valid.
II) No. It is Utopian to think that there will not be nepotism and corruption in awarding degrees by colleges.
- (A) Only argument I is strong
(B) Only argument II is strong
(C) Either I or II is strong
(D) Neither I nor II is strong
- 17. Statement —** Should the prestigious people who have committed crime unknowingly, be met with special treatment?
Arguments —
- I) Yes. The prestigious people do not commit crime intentionally.
II) No. It is our policy that everybody is equal before the law.
- (A) Only argument I is strong
(B) Only argument II is strong
(C) Either I or II is strong
(D) Both I and II are strong
- 18. Statement —** Can pollution be controlled?
Arguments —
- I) Yes. If everyone realizes the hazards it may create and cooperates to get rid of it, pollution may be controlled.
II) No. The crowded highways, factories and industries and an ever-growing population eager to acquire more and more land for constructing houses are beyond control.
- (A) Only argument I is strong
(B) Only argument II is strong
(C) Either I or II is strong
(D) Neither I nor II is strong
- 19. Statement —** Should the railways in India be privatized in a phased manner like other public sector enterprises?
Arguments —
- I) Yes. This is the only way to bring in competitiveness and provide better services to the public.

- II) No. This will pose a threat to the national security of our country as multinationals will enter into the fray.
- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
- 20. Statement —** Should internal assessment in colleges be abolished?
Arguments —
- I) Yes. This will help in reducing the possibility of favouritism.
 II) No, teaching faculty will lose control over students.
- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
- 21. Statement —** Should all the unauthorized structures in the city be demolished?
Arguments —
- I) No. Where will the people residing in such houses live?
 II) Yes. This will give a clear message to general public and they will refrain from constructing unauthorized buildings.
- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
- 22. Statement —** Should there be a maximum limit for the number of ministers in the Central Government?
Arguments —
- I) No. The political party in power should have the freedom to decide the number of ministers to be appointed.
- II) Yes. The number of ministers should be restricted to a certain percentage of the total number of seats in the parliament to avoid unnecessary expenditure.
- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Both I and II are strong
- 23. Statement —** Should foreign films be banned in India?
Arguments —
- I) Yes. They depict an alien culture which adversely affects our values.
 II) No. Foreign films are of a high artistic standard.
- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
- 24. Statement —** Is buying things on installments profitable to the customer?
Arguments —
- I) Yes. He has to pay less. No, paying installments upsets the family budget.
- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
- 25. Statement —** Should Doordarshan be given autonomous status?
Arguments —
- I) Yes. It will help Doordarshan to have fair and impartial coverage of all important events.
 II) No. The coverage of events will be decided by a few who may not have healthy outlook.

- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Neither I nor II is strong
 (D) Both I and II are strong
- 26. Statement —** Should adult education programme be given priority over compulsory education programme?
Arguments —
 I) No. It will also help in success of compulsory education programme.
 II) Yes. It will help to eliminate the adult illiteracy.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Both I and II are strong
- 27. Statement —** Should new universities be established in India?
Arguments —
 I)
 II) No. We have still not achieved the target for literacy.
 III)
 IV) No. We will have to face the problem of unemployed but highly qualified people.
 (A) Only argument II is strong
 (B) Either I or II is strong
 (C) Neither I nor II is strong
 (D) Both I and II are strong
- 28. Statement —** Should non-vegetarian food be totally banned in our country?
Arguments —
 I) Yes. It is expensive and therefore it is beyond the means of most people in our country.
 II) No. Nothing should be banned in a democratic country like ours.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Both I and II are strong
- 29. Statement —** Should a total ban be put on trapping wild animals?
Arguments —
 I) Yes. Trappers are making a lot of money;
 II) No. Bans on hunting and trapping are not effective.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
- 30. Statement —** Should Government close down loss-making public sector enterprises?
Arguments —
 I) No. All employees will lose their jobs, security and earning, what would they do?
 II) Yes. In a competitive world the rule is 'survival of the fittest'.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Neither I nor II is strong
 (D) Both I and II are strong
- 31. Statement —** Should government jobs in rural areas have more incentives?
Arguments —
 I) Yes. Incentives are essential for attracting government servants there.
 II) No. Rural areas are already cheaper, healthier and less complex than big cities. So? Why offer extra incentives!
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Both I and II are strong
- 32. Statement —** Should there be a cap on maximum number of contestants for parliamentary elections in any constituency?
Arguments —

- I) Yes. This will make the parliamentary elections more meaningful as the voters can make a considered judgement for casting their vote.
- II) No. In a democracy any person fulfilling the eligibility criteria can contest parliamentary elections and there should be no restrictions.
- (A) Only argument I is strong
(B) Only argument II is strong
(C) Neither I nor II is strong
(D) Both I and II are strong
- 33. Statement —** Should so much money be spent on advertisements?
Arguments —
- I) Yes. It is an essential concomitant in a capitalist economy.
II) No. It leads to wastage of resources.
- (A) Only argument I is strong
(B) Only argument II is strong
(C) Neither I nor II is strong
(D) Both I and II are strong
- 34. Statement —** Should all the legislators be forced to resign from their profession?
Arguments —
- I) Yes. They will be able to devote more time for the country.
II) No, nobody will contest election.
- (A) Only argument I is strong
(B) Only argument II is strong
(C) Neither I nor II is strong
(D) Both I and II are strong
- 35. Statement —** Should 'computer knowledge' be made a compulsory subject for all the students at secondary school level?
Arguments —
- I) No, our need is 'bread' for everyone, we cannot follow western models.
II) Yes. We cannot compete in the international market without equipping our children with computers.
- (A) Only argument I is strong
(B) Only argument II is strong
(C) Neither I nor II is strong
(D) Both I and II are strong
- 36. Statement —** Should there be uniforms for students in the colleges in India as in the schools?
Arguments —
- I) Yes, this will improve the ambience of the colleges as all the students will be decently dressed.
II) No. The college students should not be regimented and they should be left to choose their clothes for coming to the college.
- (A) Only argument I is strong
(B) Only argument II is strong
(C) Either I or II is strong
(D) Both I and II are strong
- 37. Statement —** Should India engage into a dialog with neighbouring countries to stop cross border tension?
Arguments —
- I) Yes. This is the only way to reduce the cross border terrorism and stop loss of innocent lives.
II) No. Neighbouring countries cannot be relied upon in such matters, they may still engage in subversive activities.
- (A) Only argument I is strong
(B) Only argument II is strong
(C) Neither I nor II is strong
(D) Both I and II are strong
- 38. Statement —** Should there be a world government?
Arguments —
- I) Yes. It will help in eliminating tensions among the nations.
II) No. Then, only the developed countries will dominate in the government.

- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
- 39. Statement —** Should the practice of transfers of clerical cadre employees from government offices of one city to those of another be stopped?
Arguments —
 I) No. Transfer of employees is a routine administrative matter and we must continue it.
 II) Yes. It involves lot of governmental expenditure and inconvenience too many compared to the benefits it yields.
 (A) Only argument I is strong
 (B) Either I or II is strong
 (C) Neither I nor II is strong
 (D) Both I and II are strong
- 40. Statement —** Is paying ransom or agreeing to the conditions of kidnappers of political figures, a proper course of action?
Arguments —
 I) Yes. The victims must be saved at all cost.
 II) No. It encourages the kidnappers to continue their sinister activities.
 (A) Only argument II is strong
 (B) Either I or II is strong
 (C) Neither I nor II is strong
 (D) Both I and II are strong
- 41. Statement —** Should religion be banned?
Arguments —
 I) Yes. It develops fanaticism in people.No, Religion binds people together.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
- 42. Statement —** Should India become a permanent member of UN's Security Council?
Arguments —
 I) Yes. India has emerged as a country which loves peace and amity.
 II) No. Let us first solve problems of our own people like poverty, malnutrition.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Both I and II are strong
- 43. Statement —** Should fashionable dresses be banned?
Arguments —
 I) Yes. Fashions keep changing and hence consumption of cloth increases.
 II) No. Fashionable clothes are a person's self expression and therefore his/her fundamental right.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Both I and II are strong
- 44. Statement —** Should an organization like UNO be dissolved?
Arguments —
 I) Yes. With cold war coming to an end, such organizations have no role to play.No, In the absence of such organizations there may be a world war.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
- 45. Statement —** Should there be no place of interview in selection?
Arguments —
 I) Yes, it is very subjective in assessment.

- II) No. It is the only instrument to judge candidates' motives and personality.
- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Neither I nor II is strong
 (D) Both I and II are strong
- 46. Statement —** Should family planning be made compulsory in India?
Arguments —
- I) Yes. Looking to the miserable conditions in India, there is no other go.
 II) No. In India there are people of various religions and family planning is against the tenets of some of the religions.
- (A) Only argument I is strong
 (B) Either I or II is strong
 (C) Neither I nor II is strong
 (D) Both I and II are strong
- 47. Statement —** Should income tax be abolished in India?
Arguments —
- I) Yes. It is an unnecessary burden on the wage earners.
 II) No. It is a good source of revenue.
- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Neither I nor II is strong
 (D) Both I and II are strong
- 48. Statement —** Should there be a ceiling on the salary of top executives of multinationals in our country?
Arguments —
- I) Yes. Otherwise it would lead to unhealthy competition and our own industry would not be able to withstand that.
 II) No. With the accent on liberalization of economy, any such move would be counter-productive. Once the economy picks up, this disparity will be reduced.
- (A) Only argument I is strong
 (B) Either I or II is strong
 (C) Neither I nor II is strong
 (D) Both I and II are strong
- 49. Statement —** Should school education be made free in India?
Arguments —
- I) Yes. This is the only way to improve the level of literacy.
 II) No. It would add to the already heavy burden on the exchequer.
- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
- 50. Statement —** Should import duty on all the electronic goods be dispensed with?
Arguments —
- I) No. This will considerably reduce the income of the government and will adversely affect the developmental activities.
 II) No. The local manufacturers will not be able to compete with the foreign manufacturers who are technologically far superior.
- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
- 51. Statement —** Should children be legally made responsible to take care of their parents during their old age?
Arguments —
- I) Yes. Such matter can only be solved by legal means.
 II) Yes. Only this will bring some relief to poor parents.

- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
- 52. Statement —** Should there be reservation in Government jobs for candidates from single child family?
Arguments —
 I) No. This is not advisable as the jobs should be offered to only deserving candidates without any reservation for a particular group.
 II) Yes. This will help reduce the growing population in India as the parents will be encouraged to adopt single child norm.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
- 53. Statement —** Should higher education be completely stopped for some time?
Arguments —
 I) No. It will hamper the country's future progress.
 II) Yes. It will reduce the educated unemployment.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Neither I nor II is strong
 (D) Both I and II are strong
- 54. Statement —** Should we scrap the 'Public Distribution System' in India?
Arguments —
 I) Yes, Protectionism is over, everyone must get the bread on his/her own.
 II) Yes. The poor do not get any benefit because of corruption.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
- 55. Statement —** Should India have no military force at all?
Arguments —
 I) No. Other countries in the world do not believe in non-violence.
 II) Yes. Many Indians believe in non-violence.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
- 56. Statement —** Should the sex determination test during pregnancy be completely banned?
Arguments —
 I) Yes. This leads to indiscriminate female foeticide and eventually will lead to social imbalance.
 II) No. People have a right to know about their unborn child.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 57. Statement —** Should persons convicted of criminal offences in the past be allowed to contest elections in India?
Arguments —
 I) No. Such persons cannot serve the cause of the people and country.
 II) Yes. It is democracy - let people decide whom to vote.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong

- (E) Both I and II are strong
- 58. Statement —** Should officers accepting bribe be punished?
- Arguments —**
- I) No. Certain circumstances may have compelled them to take bribe.
 II) Yes. They should do the job they are entrusted with, honestly.
- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 59. Statement —** Should there be a complete ban on use of all types of chemical pesticides in India?
- Arguments —**
- I) No. The pests will destroy all the crops and the farmers will have nothing to harvest.
 II) Yes. The chemical pesticides used in agriculture pollute the water underground and this has become a serious health hazard.
- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 60. Statement —** Should cutting of trees be banned altogether?
- Arguments —**
- I) Yes. It is very much necessary to do so to restore ecological balance.
 II) No. A total ban would harm timber based industries.
- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 61. Statement —** Should there be a restriction on the migration of people from one state to another state in India?
- Arguments —**
- I) No. Any Indian citizen has a basic right to stay at any place of his/her choice and hence they cannot be stopped.
 II) Yes. This is the way to effect an equitable distribution of resources across the states in India.
- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 62. Statement —** Should all refugees, who make unauthorized entry into a country, be forced to go back to their homeland?
- Arguments —**
- I) Yes. They make their colonies and occupy a lot of land.
 II) No. They leave their homes because of hunger or some terror and on human grounds, should not be forced to go back.
- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 63. Statement —** Should India create a huge oil reserve like some Western countries to face difficult situations in future?
- Arguments —**
- I) No. There is no need to block huge amount of foreign exchange and keep the money idle.
 II) Yes. This will help India withstand shocks of sudden rise in oil prices due to unforeseen circumstances.

- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 64. Statement —** Should there be more than one High Court in each state in India?
Arguments —
 I) No. This will be a sheer wastage of taxpayers' money.
 II) Yes. This will help reduce the backlog of cases pending for a very long time.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 65. Statement —** Should judiciary be independent of the executive?
Arguments —
 I) Yes. This would help curb the unlawful activities of the executive.
 II) No. The executive would not be able to take bold measures.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 66. Statement —** Should all the practising doctors be brought under Government control so that they get salary from the Government and treat patients free of cost?
Arguments —
 I) No. How can any country do such an undemocratic thing?
 II) Yes. Despite many problems, it will certainly help minimize, if not eradicate, unethical medical practices.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 67. Statement —** Should students take part in politics?
Arguments —
 I) Yes. It inculcates in them qualities of leadership.
 II) No. They should study and build up their career.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 68. Statement —** Should the opinion polls predicting outcome of elections before the elections be banned in India?
Arguments —
 I) Yes. This may affect the voters mind and may affect the outcome.
 II) No. Such polls are conducted all over the world.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 69. Statement —** Should the political parties be banned?
Arguments —
 I) Yes. It is necessary to teach a lesson to the politicians.
 II) No. It will lead to an end of democracy.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong

70. Statement — Should system of offering jobs only to the wards of government employees be introduced in all government offices in India?

Arguments —

- I) No. It denies opportunity to many deserving individuals and government may stand to lose in the long run.
- II) No. It is against the principle of equality, does not government owe its responsibility to all its citizens?

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Neither I nor II is strong
- (E) Both I and II are strong

71. Statement — Should the vehicles older than 15 years be rejected in metros in India?

Arguments —

- I) Yes. This is a significant step to lower down the pollution level in metros.
- II) No. It will be very difficult for vehicle owners to shift to other parts in country because they will not get suitable job for their very existence.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Neither I nor II is strong
- (E) Both I and II are strong

72. Statement — Should the tuition fees in all post-graduate courses be hiked considerably?

Arguments —

- I) Yes. This will bring in some sense of seriousness among the students and will improve the quality.
- II) No. This will force the meritorious poor students to stay away from post-graduate courses.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Neither I nor II is strong
- (E) Both I and II are strong

73. Statement — Should the persons below the age of 18 years be allowed to join armed forces?

Arguments —

- I) No. Persons below the age of 18 do not attain both physical and mental maturity to shoulder such burden.
- II) Yes. This will help the country develop its armed forces which will serve the country for a longer time.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Neither I nor II is strong
- (E) Both I and II are strong

74. Statement — Should all the infrastructural development projects in India be handed over to the private sector?

Arguments —

- I) No. The private sector entities are not equipped to handle such projects.
- II) Yes. Such projects are handled by private sector in the developed countries.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Neither I nor II is strong
- (E) Both I and II are strong

75. Statement — Should all the colleges in India be allowed to devise their own curriculum and syllabus for the vocational courses promoting self-employment?

Arguments —

- I) Yes. This is an important step to generate employment opportunities.
- II) No. This will affect the quality of education due to lack of uniformity in syllabus.
- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 76. Statement —** Should agriculture in rural India be mechanized?
- Arguments —**
- I) Yes. It would lead to higher production.
- II) No. Many villagers would be left unemployed.
- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 77. Statement —** Should there be concentration of foreign investment in only few states?
- Arguments —**
- I) No. It is against the policy of overall development of the country.
- II) Yes. A large number of states lack infrastructure to attract foreign investment.
- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 78. Statement —** Should the oil companies be allowed to fix the price of petroleum products depending on market conditions?
- Arguments —**
- I) Yes. This is the only way to make the oil companies commercially viable.
- II) No. This will put additional burden on the retail prices of essential commodities and will cause a lot of hardships to the masses.
- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 79. Statement —** Should the education at all levels be offered only in vernacular medium?
- Arguments —**
- I) Yes. This is the only way to enhance performance of the students.
- II) No. This will severely affect acquiring knowledge for want of good text books in vernacular medium.
- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 80. Statement —** Should there be only one rate of interest for term deposits of varying durations in banks?
- Arguments —**
- I) No. People will refrain from keeping money for longer duration resulting into reduction of liquidity level of banks.
- II) Yes. This will be much simple for the common people and they may be encouraged to keep more money in banks.
- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong

81. Statement — Should all news be controlled by Government in a democracy?

Arguments —

- I) Yes. Variety of news only confuses people.
 - II) No. Controlled news loses credibility.
- (A) Only argument I is strong
(B) Only argument II is strong
(C) Either I or II is strong
(D) Neither I nor II is strong
(E) Both I and II are strong

82. Statement — Should taxes on colour television be further increased?

Arguments —

- I) Yes, Colour television is a luxury
 - II) and only rich people buy them.No, Televisions are bought by the poor too.
- (A) Only argument I is strong
(B) Only argument II is strong
(C) Either I or II is strong
(D) Neither I nor II is strong
(E) Both I and II are strong

83. Statement — Should the educated unemployed youth be paid "unemployment allowance" by the Government?

Arguments —

- I) Yes. It will provide them some monetary help to either seek employment or to kick-start some 'self-employment' venture.
 - II) No. It will dampen their urge to do something to earn their livelihood and thus promote idleness among the unemployed youth.
- (A) Only argument I is strong
(B) Only argument II is strong
(C) Either I or II is strong
(D) Neither I nor II is strong
(E) Both I and II are strong

84. Statement — Should there be only one university throughout India?

Arguments —

- I) Yes. This is the only way to bring about uniformity in the educational standards.
 - II) No. This is administratively impossible.
 - III) Yes. This will make the degrees procured by students, comparable for offering jobs.
- (A) None is strong
(B) Only I and II are strong
(C) Only II and III are strong
(D) Only I and III are strong
(E) All are strong

85. Statement — Should India immediately stop digging coal from its mines?

Arguments —

- I) Yes. The present stock of coal will not last long if we continue mining at the present rate.
 - II) No. We do not have alternate energy source of sufficient quantity.
 - III) No. This will put millions of people at a disadvantage and their lives will get adversely affected and also the industry.
- (A) Only I and II are strong
(B) Only II and III are strong
(C) Only I and III are strong
(D) All are strong
(E) None is strong

86. Statement — Should all the indirect taxes in India be combined into a single tax on all commodities?

Arguments —

- I) Yes. This will considerably simplify the tax collection mechanism and the cost of collecting tax will also reduce.

II) Yes. The manufacturers and traders will be benefited by this which in turn will boost tax collection.

III) No. No other country has adopted such system.

- (A) None is strong
- (B) Only I and III are strong
- (C) Only II is strong
- (D) Only II and III are strong
- (E) None of these

87. Statement — Should there be complete ban on Indian professionals seeking jobs elsewhere after getting their education in India?

Arguments —

I) Yes. This is the only way to sustain present rate of technological development in India.

II) No. The Indians settled abroad send huge amount of foreign exchange and this constitutes a significant part of foreign exchange reserve.

III) No. The practical knowledge gained by Indians by working in other countries help India develop its economy.

- (A) None is strong
- (B) All are strong
- (C) Only I and II are strong
- (D) Only III is strong
- (E) Only II and III are strong

88. Statement — Should there be a total ban on tobacco products and smoking in India?

Arguments —

I) Yes. It is wrong to smoke away millions of money.

II) No. It will throw thousands of workers in the tobacco industry out of employment.

III) No. The government will lose huge amount of money as it will not earn by way of taxes on these products.

- (A) None is strong
- (B) Only I and II are strong
- (C) Only II is strong
- (D) Only II and III are strong
- (E) All are strong

89. Statement — Should administrative officers be transferred after one or two years?

Arguments —

I) Yes. They get friendly with local people and are manipulated by them.

II) No. By the time their policies and schemes start taking shape, they have to leave.

III) No. This will create a lot of administrative hassles and cause a lot of inconvenience to the officers.

- (A) Only II is strong
- (B) Only I and II are strong
- (C) Only II and III are strong
- (D) Only I and III are strong
- (E) All are strong

90. Statement — Should the consumption of aerated drinks be banned in India?

Arguments —

I) Yes. This is the only way to reduce the risk of exposing people to some diseases.

II) No. Each individual should have right to choose what he wants.

III) No. There is no confirmed evidence that such products have adverse effects on human body.

IV) Yes. It is banned in many other countries also.

- (A) Only I is strong
- (B) Only I and II are strong
- (C) Only III is strong
- (D) Only I and IV are strong
- (E) All are strong

91. Statement — Should higher education be restricted to only those who can bear the expenditure?

Arguments —

- I) Yes. Higher education is very costly; hence it should not be given free.
- II) No. There are a large number of brilliant students who cannot afford to pay and they should be given higher education.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Neither I nor II is strong
- (E) Both I and II are strong

92. Statement — Should those who receive dowry, despite the law prohibiting it, be punished?

Arguments —

- I) Yes. Those who violate the law must be punished.
- II) No. Dowry system is firmly rooted in the society since time immemorial.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Neither I nor II is strong
- (E) Both I and II are strong

93. Statement — Is the Government justified in spending so much on defence?

Arguments —

- I) Yes. Safety of the country is of prime importance.
- II) No. During peace, this money could be used for the development of the country.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Neither I nor II is strong
- (E) Both I and II are strong

94. Statement — Should girls learn arts like judo and karate?

Arguments —

- I) Yes. It will enable them to defend themselves from rogues and ruffians.
- II) No. They will lose their feminine grace.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Neither I nor II is strong
- (E) Both I and II are strong

95. Statement — Should India develop a national water grid by connecting all the rivers in the country?

Arguments —

- I) No. This is not just possible as we do not have the technical knowhow. Yes, this will greatly help the entire country by effectively channelizing the excess water to the areas having shortage.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Neither I nor II is strong
- (E) Both I and II are strong

96. Statement — Should individuals/institutions having treasures of national significance like Nobel Prizes, hand them over to the Central Government for their safe custody?

Arguments —

- I) Yes. The individuals or institutions do not have enough resources to protect them.
- II) No. These are the property of the individuals/institutions who win them and should be in their custody.

- (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 97. Statement —** Should there be reservation of seats and posts on communal basis?
Arguments —
 I) Yes. It will check most of the inter-communal biases.No, ours is a secular state.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 98. Statement —** Should octroi be abolished?
Arguments —
 I) Yes. It will eliminate an important source of corruption.
 II) No. It will adversely affect government revenues.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 99. Statement —** Should public holidays be declared on demise of important national leaders?
Arguments —
 I) No. Such unscheduled holidays hamper national progress.
 II) Yes. People would like to pay their homage to the departed soul.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 100. Statement —** Should India support all the international policies of United States of America?
Arguments —
 I) No. Many other powerful countries do not support the same.
 II) Yes. This is the only way to gain access to USA developmental funds.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 101. Statement —** Should words like 'Smoking is injurious to health essentially appear on cigarette packs?
Arguments —
 I) Yes. It is a sort of brainwash to make the smokers realize that they are inhaling poisonous stuff.
 II) No. It hampers the enjoyment of smoking.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong
- 102. Statement —** Should the council of ministers once appointed be kept the same for the entire period intervening two elections?
Arguments —
 I) No. Shuffling of ministers and portfolios is a healthy democratic process.
 II) Yes. The ministers do not get a hold on their portfolio unless they are kept for a longer duration.
 (A) Only argument I is strong
 (B) Only argument II is strong
 (C) Either I or II is strong
 (D) Neither I nor II is strong
 (E) Both I and II are strong

103. Statement — Should people with educational qualification higher than the optimum requirements be debarred from seeking jobs?

Arguments —

- I) No. It will further aggravate the problem of educated unemployment.
 - II) Yes. It creates complexes among employees and affects the work adversely.
 - III) No. This goes against the basic rights of the individuals.
 - IV) Yes. This will increase productivity.
- (A) Only I and III are strong
 (B) All are strong
 (C) Only II and IV are strong
 (D) Only III is strong
 (E) None of these

104. Statement — Should India go in for computerization in all possible sectors?

Arguments —

- I) Yes. It will bring efficiency and accuracy in the work.
 - II) No. It will be an injustice to the monumental human resources which are at present underutilized.
 - III) No. Computerization demands a lot of money. We should not waste money on it.
 - IV) Yes. When advanced countries are introducing computers in every field, how can India afford to lag behind?
- (A) Only I is strong
 (B) Only I and II are strong
 (C) Only I and III are strong
 (D) Only II and III are strong
 (E) All are strong

105. Statement — Should all the school teachers be debarred from giving private tuitions?

Arguments —

- I) No. The needy students will be deprived of the expertise of these teachers.
 - II) Yes. This is an injustice to the unemployed educated people who can earn their living by giving tuitions.
 - III) Yes. Only then the quality of teaching in schools will improve.
 - IV) Yes. Now salary of these teachers is reasonable.
- (A) Only I and III are strong
 (B) Only I, II and III are strong
 (C) Only III and IV are strong
 (D) Only II, III and IV are strong
 (E) None of these

106. Statement — Should education be made compulsory for all children up to the age of 14?

Arguments —

- I) Yes. This will help to eradicate the system of forced employment of these children.
 - II) Yes. This is an effective way to make the entire population educated.
 - III) No. We do not have adequate infrastructure to educate the entire population.
 - IV) Yes. This would increase the standard of living.
- (A) All are strong
 (B) Only I, II and III are strong
 (C) Only I, II and IV are strong
 (D) Only II is strong
 (E) Only II and III are strong

107. Statement — Should trade unions be banned completely?

Arguments —

- I) Yes. Workers can concentrate on production.
- II) No. This is the only way through which employees can put their demands before the management.

III) Yes. Employees get their illegal demands fulfilled through these unions.

IV) No. Trade unions are not banned in other economically advanced countries.

- (A) Only I is strong
- (B) Only II is strong
- (C) Only I and II are strong
- (D) Only I, II and III are strong
- (E) None of these

108. Statement— Should the public sector undertakings be allowed to adopt hire and fire policy?

Arguments—

I) Yes. This will help the public sector undertakings to get rid of non-performing employees and reward the performing employees.

II) No. This will give an unjust handle to the management and they may use it indiscriminately.

III) Yes. This will help increase the level of efficiency of these organizations and these will become profitable establishments.

- (A) None is strong
- (B) Only I and II are strong
- (C) Only II and III are strong
- (D) Only I and III are strong
- (E) All are strong

109. Statement— Is caste-based reservation policy in professional colleges justified?

Arguments—

I) Yes. The step is a must to bring the underprivileged at par with the privileged ones.

II) No. It obstructs the establishment of a classless society.

III) Yes. This will help the backward castes and classes of people to

come out of the oppression of upper caste people.

- (A) Only I and II are strong
- (B) Only II is strong
- (C) Only II and III are strong
- (D) Only I and III are strong
- (E) All are strong

110. Statement— Should there be a complete ban on genetically modified imported seeds?

Arguments—

I) Yes. This will boost the demand of domestically developed seeds.

II) No. This is the only way to increase production substantially.

III) Yes. Genetically modified products will adversely affect the health of those who consume these products.

- (A) Only I and II are strong
- (B) Only II is strong
- (C) Only II and III are strong
- (D) Only I and III are strong
- (E) All are strong

111. Statement— Should the income generated out of agricultural activities be taxed?

Arguments—

I) No. Farmers are otherwise suffering from natural calamities and low yield coupled with low procurement price and their income should not be taxed.

II) Yes. Majority of the population is dependent on agriculture and hence their income should be taxed to augment the resources.

III) Yes. Many big farmers earn much more than the majority of the service earners and they should be taxed to remove the disparity.

- (A) Only I is strong
- (B) Only I and II are strong

- (C) Only II and III are strong
- (D) All are strong
- (E) None of these

112. Statement— Should all the management institutes in the country be brought under government control?

Arguments—

- I) No. The government does not have adequate resources to run such institutes effectively.
 - II) No. Each institute should be given freedom to function on its own.
 - III) Yes. This will enable to have standardized education for all the students.
 - IV) Yes. Only then the quality of education would be improved.
- (A) None is strong
 - (B) Only I, II and III are strong
 - (C) Only I and III are strong
 - (D) All are strong
 - (E) Only III is strong View Answer Workspace

113. Statement— Should the system of Lok Adalats and mobile courts be encouraged in India?

Arguments—

- I) Yes. It helps to grant speedy justice to the masses.
 - II) Yes. The dispensing of minor cases at this level would reduce the burden on the higher courts.
 - III) No. These courts are usually partial in justice.
- (A) Only I and II are strong
 - (B) Only II and III are strong
 - (C) Only I and III are strong
 - (D) All are strong
 - (E) Only I is strong

114. Statement— Should India acquire/manufacture the latest nuclear weapons?

Arguments—

- I) Yes. The enemies of India are improving their weapons continuously and it becomes imperative to protect the sovereignty and integrity of the country.
 - II) No. Instead the money should be diverted to development activities.
 - III) No. The international community will isolate Indians and this will bring a setback to Indian economy.
 - IV) No. It will be against our policy of maintaining world peace.
- (A) Only I is strong
 - (B) Only I and IV are strong
 - (C) Only I, II and IV are strong
 - (D) All are strong
 - (E) None of these

115. Statement— Should there be a complete ban on manufacture and use of firecrackers?

Arguments—

- I) No. This will render thousands of workers jobless.
 - II) Yes. The firecracker manufacturers use child labour to a large extent.
 - III) Yes. This will be a concrete step to reduce noise and air pollution.
 - IV) No. Use of firecrackers makes certain special occasions more lively and joyful.
- (A) Only I and II are strong
 - (B) Only I and III are strong
 - (C) Only III and IV are strong
 - (D) Only I, II and III are strong
 - (E) Only I, III and IV are strong

116. Statement— Should "literacy" be the minimum criterion for becoming a voter in India?

Arguments—

- I) No. Mere literacy is no guarantee of political maturity of an individual.

- II) Yes. Illiterate people are less likely to make politically wiser decisions of voting for a right candidate or party.
- III) No. Voting is the constitutional right of every citizen.

- (A) None is strong
 (B) Only I and II are strong
 (C) Only III is strong
 (D) Only II and III are strong
 (E) All are strong

117. Statement— Should there be only few banks in place of numerous smaller banks in India?

Arguments—

- I) Yes. This will help secure the investor's money as these big banks will be able to withstand intermittent market related shocks.
- II) No. A large number of people will lose their jobs as after the merger many employees will be redundant.
- III) Yes. This will help consolidate the entire banking industry and will lead to healthy competition.

- (A) None is strong
 (B) Only I and II are strong
 (C) Only II and III are strong
 (D) Only I and III are strong
 (E) All are strong

118. Statement— Should religion be taught in our schools?

Arguments—

- I) No. Ours is a secular state.
- II) Yes. Teaching religion helps inculcate moral values among children.
- III) No. How can one dream of such a step when we want the young generation to fulfil its role in the 21st century.

- (A) All are strong
 (B) None is strong

- (C) Only I is strong
 (D) Only II is strong
 (E) Only I and III are strong

119. Statement— Should the parliamentary elections in India be held every three years as against five years at present?

Arguments—

- I) No. This will enhance wastage of money and resources.
- II) Yes. This will help the voters to change non-performing representatives without much delay.
- III) No. The elected representatives will not have enough time to settle and concentrate on developmental activities.

- (A) None is strong
 (B) Only I and II are strong
 (C) Only II and III are strong
 (D) Only I and III are strong
 (E) All are strong

120. Statement— Should the number of holidays of government employees be reduced?

Arguments—

- I) Yes. Our government employees are having the maximum number of holidays among the countries of the world.
- II) Yes. It is a sign of British legacy, why should we carry it further?
- III) Yes. It will speed up work and all the pending jobs can be completed well in time.
- IV) No. Employees must be given ample spare time to spend with their family.

- (A) Only I and III are strong
 (B) Only III is strong
 (C) Only I, III and IV are strong
 (D) None is strong
 (E) None of these

121. Statement— Should class IV children have Board examination?

Arguments—

- I) Yes. This will motivate the children to study and get higher marks, and thus more knowledge can be imbibed at a younger age.
- II) No. The children will be forced to study and won't enjoy the process.
- III) Yes. In today's competitive world the children need to be prepared right from the beginning to face such difficult examinations.
- IV) No. This will add pressure on tender aged children and leave very little time for them to play.

- (A) All are strong
- (B) Only I, II and IV are strong
- (C) Only II, III and IV are strong
- (D) Only I and III are strong
- (E) Only I and IV are strong

122. Statement— Should the rule of wearing helmet for both driver and pillion rider while driving a motor bike be enforced strictly?

Arguments—

- I) Yes. It is a rule and rules should be followed strictly by all.
- II) No. Each individual knows how to protect his own life and it should be left to his discretion.
- III) No. It does not ensure safety as only the head is protected and rest of the body is not.
- IV) Yes. It is a necessity as head, being the most sensitive organ, is protected by the helmet.

- (A) None is strong
- (B) Only I and III are strong
- (C) Only I and IV are strong
- (D) Only II and IV are strong
- (E) All are strong

123. Statement— Should all the students graduating in any discipline desirous of pursuing post-graduation of the subjects of their choice be allowed to enrol in the post-graduate courses?

Arguments—

- I) Yes. The students are the best judge of their capabilities and there should not be restrictions for joining post-graduate courses.
- II) No. The students need to study relevant subjects in graduate courses to enrol in post-graduate courses and the students must fulfil such conditions.
- III) No. There are not enough institutes offering post-graduate courses which can accommodate all the graduates desirous of seeking post-graduate education of their own choice.

- (A) None is strong
- (B) Only I and II are strong
- (C) All are strong
- (D) Only I and III are strong
- (E) None of these

124. Statement— Should we impart sex education in schools?

Arguments—

- I) Yes. All the progressive nations do so.
- II) No. We cannot impart it in co-educational schools.
- III) Yes. It would certainly help in eradicating the existing misunderstanding and make the younger generation physically and mentally healthier. It will destroy the moral fibre and the highly esteemed value system which we have inherited from our forefathers.

- (A) None is strong
- (B) Only I, III and IV are strong
- (C) Only II, III and IV are strong

- (D) Only II and IV are strong
 (E) None of these

125. Statement — Should coal engines be replaced by electric engines in trains?

Arguments —

- I) Yes. Coal engines cause a lot of pollution.
 II) Yes. Electric engines are good on performance, easy to operate and low on maintenance.
 III) No. India does not produce enough electricity to fulfil its domestic needs also.
- (A) All are strong
 (B) Only I and II are strong
 (C) Only II and III are strong
 (D) Only I and III are strong
 (E) Only I is strong

126. Statement — Should all those who are convicted for heinous crimes like murder or rape, beyond all reasonable doubts be given capital punishment or death penalty?

Arguments —

- I) No. The death penalty should be given only in very rare and exceptional cases.
 II) Yes. This is the only way to punish such people who take others' lives or indulge in inhuman activities.
 III) Yes. Such severe punishments only will make people refrain from such heinous acts and the society will be safer.
 IV) No. Those who are repentant for the crime they committed should be given a chance to improve and lead a normal life.
- (A) Only II and IV are strong
 (B) All are strong
 (C) Only III is strong
 (D) Only II and III are strong
 (E) Only I, II and III are strong

127. Statement — Should all the profit making public sector units be sold to private companies?

Arguments —

- I) Yes. This will help the government to augment its resources for implementing the development programmes.
 II) No. The private companies will not be able to run these units effectively.
 III) Yes. There will be a significant improvement in the quality of services.
 IV) No. There would not be job security for the employees at all the levels.
- (A) Only II and III are strong
 (B) All are strong
 (C) Only III and IV are strong
 (D) Only I, II and III are strong
 (E) Only II, III and IV are strong

128. Statement — Should all the youngsters below 21 years of age be disallowed from going to a beer bar?

Arguments —

- I) No. It is not correct to prevent matured youngsters above 18 years of age who can vote, from having fun.
 II) Yes. The entry fee to such pubs should also be hiked.
 III) No. There is no such curb in western countries.
 IV) Yes. This will help in preventing youngsters from getting into bad company and imbibing bad habits.
- (A) Only I is strong
 (B) Only I and III are strong
 (C) Only III and IV are strong
 (D) Only I and IV are strong
 (E) None is strong

129. Statement — Should the government ban all forms of protests including strikes

and processions?

Arguments —

- I) Yes. This is the only way to teach discipline to the employees.
 - II) No. Government cannot deprive its citizens of their basic rights.
 - III) Yes. This is the only way to ensure maximum productivity without disruption of work.
- (A) None is strong
 (B) Only I and II are strong
 (C) Only II and III are strong
 (D) Only I and III are strong
 (E) All are strong

130. Statement — Should children be prevented completely from watching television?

Arguments —

- I) No. We get vital information regarding education through television.
 - II) Yes. It hampers the study of children.
 - III) Yes. Young children are misguided by certain programmes featuring sex and violence.
 - IV) No. This is the only way to educate the masses.
- (A) Only I, II and III are strong
 (B) Only I is strong
 (C) Only I, II and IV are strong
 (D) Only I and II are strong
 (E) Only I, III and IV are strong

131. Statement — Should mercy death be legalized, i.e., all those who are suffering from terminal diseases be allowed to end their lives if they so desire?

Arguments —

- I) No. Nobody should be allowed to end his/her life at his/her will as this goes against the basic tenets of humanity.

- II) Yes. Patients undergoing terrible suffering and having absolutely no chance of recovery should be liberated from suffering through mercy death.

- III) No. Even mercy death is a sort of killing and killing can never be legalized.

- (A) None is strong
 (B) Only I and II are strong
 (C) Only II and III are strong
 (D) Only I and III are strong
 (E) All are strong

132. Statement — Should seniority be the only criterion for the promotion?

Arguments —

- I) No. It would be an injustice to those juniors who are more deserving and suitable for higher positions than their senior counterparts.

- II) Yes. Otherwise senior employees do feel humiliated.

- III) Yes. Senior employees are more experienced and must be rewarded for the same.

- (A) None is strong
 (B) Only I is strong
 (C) Only I and III are strong
 (D) Only I and II are strong
 (E) All are strong

133. Statement — Should admission to all professional courses be made on the basis of past academic performance rather than through entrance tests?

Arguments —

- I) Yes. It will be beneficial for those candidates who are unable to bear the expenses of entrance tests.

- II) Yes. Many deserving candidates securing high marks in their qualifying academic examinations do not perform well on such entrance tests.

III) No. The standard of examinations and assessment conducted by different Boards and universities are not comparable and hence there is a need to conduct entrance tests to calibrate them on a common yardstick.

- (A) Only I and II are strong
- (B) Only II and III are strong
- (C) Only I and III are strong
- (D) Only III is strong
- (E) All are strong

134. Statement— Should there be reservation of jobs in the organizations in the private sector also as in the public sector undertakings in India?

Arguments—

- I) Yes. This would give more opportunities of development to the weaker sections of the society and thus help reduce the gap between the affluent and the downtrodden in India.
- II) No. The private sector does not get any government assistance and therefore they should not be saddled with such policies.
- III) No. Nowhere else in the world such a practice is being followed.
- IV) No. The management of the private sector undertaking would not agree to such compulsions.

- (A) Only I is strong
- (B) Only I and II are strong
- (C) Only I, II and IV are strong
- (D) Only I and IV are strong
- (E) All are strong

135. Statement— Should workers/employees be allowed to participate in the management of factories in India?

Arguments—

- I) Yes. It is the present management theory.

II) No. Many workers are illiterate and so their contributions will not be of any value.

III) Yes. Employees-owned companies generally have higher productivity.

IV) No. Employee-union ownership drives up salaries and wages.

- (A) Only I and II are strong
- (B) None is strong
- (C) Only II and III are strong
- (D) All are strong
- (E) None of these

136. Statement— Should women be given equal opportunity in the matter of employment in every field?

Arguments—

- I) Yes. They are equally capable.
- II) No. They have to shoulder household responsibilities.
- III) Yes. They should also go into the outside world.

- (A) Only I is strong
- (B) Only I and II are strong
- (C) Only II and III are strong
- (D) Only I and III are strong
- (E) All are strong

137. Statement— Should government established higher level Institutes of Technology (IIT's) be privatized?

Arguments—

- I) Yes. Privatization will make these institutes financially healthy, competitive and quality conscious.
- II) Yes. Privatization is the key of the new era - can we survive without it?
- III) No. Standard of education of these institutes will fall.

- (A) None is strong
- (B) All are strong
- (C) Only I is strong
- (D) Only I and III are strong
- (E) Only II and III are strong

138. Statement — Are nuclear families better than joint families?

Arguments —

- I) No. Joint families ensure security and also reduce the burden of work.
- II) Yes. Nuclear families ensure greater freedom.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Neither I nor II is strong
- (E) Both I and II are strong

139. Statement — Should government stop spending huge amounts of money on international sports?

Arguments —

- I) Yes. This money can be utilized for upliftment of the poor.
- II) No. Sports persons will be frustrated and will not get international exposure.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Neither I nor II is strong
- (E) Both I and II are strong

140. Statement — Should the railways immediately stop issuing free passes to all its employees?

Arguments —

- I) No. The employees have the right to travel free.
- II) Yes. This will help railways to provide better facility.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Neither I nor II is strong
- (E) Both I and II are strong

141. Statement — Should there be compulsory medical examination of both the man and the woman before they marry each other?

Arguments —

- I) No. This is an intrusion to the privacy of an individual and hence cannot be tolerated.
- II) Yes. This will substantially reduce the risk of giving birth to children with serious ailments.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Neither I nor II is strong
- (E) Both I and II are strong

142. Statement — Should there be a ban on product advertising?

Arguments —

- I) No. It is an age of advertising. Unless your advertisement is better than your other competitors, the product will not be sold.
- II) Yes. The money spent on advertising is very huge and it inflates the cost of the product.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Neither I nor II is strong
- (E) Both I and II are strong

143. Statement — Should luxury hotels be banned in India?

Arguments —

- I) Yes. They are places from where international criminals operate.
- II) No. Affluent foreign tourists will have no place to stay.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Neither I nor II is strong
- (E) Both I and II are strong

144. Statement — Should shifting agriculture be practised?

Arguments —

- I) No. It is a wasteful practice.
- II) Yes. Modern methods of farming are too expensive.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Neither I nor II is strong
- (E) Both I and II are strong

145. Statement — Should our country extend generous behaviour and goodwill to our erring and nagging neighbours?

Arguments —

- I) Yes. Goodwill always pays dividend.
- II) No. Our generous behaviour and goodwill will be considered as our weakness.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Neither I nor II is strong
- (E) Both I and II are strong

146. Statement — Is pen mightier than a sword?

Arguments —

- I) Yes. Writers influence the thinking of the people.
- II) No. With the help of physical force one can conquer all.

- (A) Only argument I is strong
- (B) Only argument II is strong
- (C) Either I or II is strong
- (D) Neither I nor II is strong
- (E) Both I and II are strong .

Definition 10.16 Answer key

144. A 145. E 146. A

10.9 Syllogism Exercise

1. Consider below statements

- a) No Cloud is Bird.
- b) Some Goats are Birds.
- c) All Cars are Goats.

Conclusions —

- I) No Car is Cloud.
- II) Some Cars are Birds.
- III) No Bird is Car.
- IV) Some Clouds are Goats.
- (A) Only III follows
- (B) Only either II or III follows
- (C) Only I follows
- (D) Only I and either II or III follow

2. Consider below statements

- a) All Grapes are Bananas.
- b) All Potatoes are Bananas.
- c) Some Bananas are Mangoes.

Conclusions —

- I) No Grape is Mango.
- II) Some Potatoes are not Mangoes.
- III) Some Grapes are Potatoes.
- IV) All Mangoes are Grapes.
- (A) Either I or III follows
- (B) Only II & III follow
- (C) Only I, II & III follow
- (D) None of these

3. Consider the following statements

- a) All medicines are tablets
- b) Some tablets are tonics
- c) Some tonics are bitter

Conclusions —

- I) Some tablets are bitter
- II) No medicine is a tonic

1. B 2. D 3. B

- (A) Only I follow
- (B) Either I or II follow
- (C) Only II follows
- (D) None follows

4. Consider below statements

- a) Some Cats are Rats.
- b) Some Rats are Ants.
- c) Some Ants are Flies.

Conclusions —

- I) Some Flies are Cats.
 - II) Some Flies are not Ants.
 - III) No Rat is Fly.
 - IV) No Cat is Fly.
- (A) Only II follows
 - (B) Only I & III follow
 - (C) Only I or IV follows
 - (D) None of these

5. Consider below statements

- a) All Chalks are Dusters
- b) Some Chalks are Boards.
- c) Some Dusters are Pens.

Conclusions —

- I) Some Pens are Chalks.
 - II) Some Dusters are Boards.
 - III) Some Pens are Boards.
 - IV) All Chalks are Pens.
- (A) Either I or IV follows
 - (B) Either I or IV & II follow
 - (C) Only II follows
 - (D) None of these

6. Consider the following statements

- a) All incomes are salaries
- b) Some salaries are perks
- c) Some perks are tangible

Conclusions —

- I) Some incomes are tangible
- II) At least some perks are salaries

- (A) Only I follow
- (B) Either I or II follow
- (C) Only II follows
- (D) None follows

7. Consider below statements

- a) Some Bags are Books.
- b) All Books are Boxes.
- c) No Box is Board.

Conclusions —

- I) Some Bags are not Boards.
 - II) Some Bags are not Boxes.
 - III) All Bags are Boxes.
 - IV) No Bag is Board.
- (A) Only I follows
 - (A) I & either II or III follows
 - (B) Only IV follows
 - (C) Only II follows
 - (D) None of these

8. Consider below statements

- a) Some streets are roads.
- b) Some roads are lanes.
- c) Some lanes are highways.

Conclusions —

- I) Some roads are not streets.
 - II) No highway is street.
 - III) Some streets are not roads.
 - IV) Some lanes are not roads.
- (A) Only III follows
 - (B) Only IV and III follow
 - (C) Both I and III follow
 - (D) None of these

9. Consider the following statements

- a) All roses are red
- b) Some red are colour
- c) All colour are paints

Conclusions —

- I) Some red are paints
- II) All red are roses

- (A) Only I follow
- (B) Either I or II follow
- (C) Only II follows
- (D) None follows

10. Consider below statements

- a) Some pencils are pens.
- b) All pens are erasers.
- c) All staplers are erasers.

Conclusions —

- I) Some pens are not pencils.
- II) All erasers are pencils.
- III) Some staplers are pens.
- IV) Some staplers are pencils.

- (A) Only I follows
- (B) Only III follows
- (C) Only IV follows
- (D) None of these

11. Consider below statements

- a) Some tables are chairs.
- b) No cupboard is table.
- c) Some chairs are cupboards.

Conclusions —

- I) Some chairs are not tables.
- II) All chairs are either tables or cupboard
- III) Some chairs are both tables and cupboards.
- IV) All chairs are tables.

- (A) Only I and IV follow
- (B) Only IV follows
- (C) Either II or III & I follow
- (D) None of these

12. Consider the following statements

- a) Some casual are formal
- b) All formal are expensive
- c) All expensive are elegant

Conclusions —

- I) All formal are elegant
- II) Some causal are expensive

- (A) Only I follow
- (B) Either I or II follow
- (C) Only II follows
- (D) Both I and II follows

13. Consider below statements

- a) All birds are animals.
- b) Some animals are humans.
- c) All humans are mammals.

Conclusions —

- I) Some humans are not birds.
- II) Some birds are humans.
- III) Some animals are not mammals.
- IV) All animals are mammals.

- (A) Only I and II follow
- (B) Either I or II follows
- (C) Either I or II and either III or IV follow
- (D) None of these

14. Consider below statements

- a) Some leaves are fruits.
- b) All branches are fruits.
- c) Some roots are branches

Conclusions —

- I) Some roots are fruits.
- II) Some branches are leaves.
- III) No leaf is branch.
- IV) Some leaves are roots.

- (A) Either II or III and I follow
- (B) Only I follows
- (C) Only I and III follow
- (D) None of these

15. Consider below statements

- a) All books are notes.
- b) Some notes are pencils.
- c) No pencil is paper.

Conclusions —

- I) Some notes are books.
- II) Some pencils are books.
- III) Some books are papers.
- IV) No book is a paper.

- (A) Only I follows

- (A) Only I and either III or IV follow
- (B) Either III or IV follows
- (C) None of these

16. Consider the following statements

- a) All towns are cities
- b) All cities are urban
- c) Some urban are rural

Conclusions —

- I) Some towns are rural
- II) All rural are towns
- (A) Only I follow
- (B) Either I or II follow
- (C) Only II follows
- (D) Neither I nor II follow

17. Consider below statements

- a) Some cups are utensils.
- b) No utensil is a bucket.
- c) All buckets are plates.

Conclusions —

- I) Some cups are buckets.
- II) Some utensils are plates.
- III) No utensil is a plate.
- IV) Some cups are plates.
- (A) Only I follows
- (B) Only III follows
- (C) Either II or III follows
- (D) None of these

18. Consider below statements

- a) Some keys are locks.
- b) All locks are doors.
- c) Some doors are windows.

Conclusions —

- I) Some locks are windows.
- II) Some windows are keys.
- III) Some windows are doors.
- IV) No window is a lock.
- (A) Either I or IV follows
- (B) Only II follows
- (C) Only III and IV follow
- (D) None of these

19. Consider the following statements

- a) Some trains are cars
- b) All cars are branches
- c) All branches are nets
- d) Some nets are dresses

Conclusions —

- I) Some dresses are cars
- II) Some nets are trains
- III) Some branches are trains
- IV) Some dresses are trains
- (A) Only I follow
- (B) Either I or II follow
- (C) Only II and III follow
- (D) Both I and II follows

20. Consider below statements

- a) All pins are staplers.
- b) Some staplers are sharpeners.
- c) Some sharpeners are stands.

Conclusions —

- I) Some staplers are stands.
- II) Some sharpeners are pins.
- III) Some pins are stands.
- IV) Some stands are sharpeners.
- (A) Only I and II follow
- (B) Only II and IV follow
- (C) Only IV follows
- (D) None of these

21. Consider the following statements

- a) All papers are clips
- b) Some clips are boards
- c) Some boards are lanes
- d) All lanes are roads

Conclusions —

- I) Some roads are boards
- II) Some lanes are clips
- III) Some boards are papers
- IV) Some roads are clips
- (A) Only I follow
- (B) Either I or II follow
- (C) Only II and III follow
- (D) Both I and II follows

22. Consider below statements

- a) Some oranges are apples.
- b) All apples are guavas.
- c) No guava is a banana

Conclusions —

- I) Some guavas are oranges.
 - II) No apple is a banana
 - III) Some oranges are bananas.
 - IV) Some apples are bananas.
- (A) Only I and II follow
 - (B) Only I and either II or IV follow
 - (C) Only I, II and IV follow
 - (D) Only III and either II or IV follow

23. Consider below statements

- a) Some spectacles are boxes.
- b) No bat is a ball.
- c) Some boxes are balls.

Conclusions —

- I) Some boxes are not bats.
 - II) Some bats are spectacles.
 - III) No bat is a box.
 - IV) No ball is a spectacle.
- (A) Only I follows
 - (B) Only I & III follow
 - (C) Only II and III follow
 - (D) None of these

24. Consider the following statements

- a) All pens are clocks
- b) Some clocks are tyres
- c) Some tyres are wheels
- d) Some wheels are buses

Conclusions —

- I) Some buses are tyres
 - II) Some wheels are clocks
 - III) Some wheels are pens
 - IV) Some buses are clocks
- (A) Only I follow
 - (B) Either I or IV follow
 - (C) Only II and III follow
 - (D) None follows

25. Consider below statements

- a) All fans are tubelights.
- b) No pen is a bulb
- c) Some bulbs are fans.

Conclusions —

- I) Some pens are tubelights.
 - II) No pens are tubelights.
 - III) Some tubelights are fans.
 - IV) All tubelights are fans.
- (A) Only I and II follow
 - (B) Either I or II and III follow
 - (C) Only III and IV follow
 - (D) None of these

26. Consider the following statements

- a) All stones are hammers No hammer is ring
- b) Some rings are doors
- c) All doors are windows

Conclusions —

- I) Some windows are stones
 - II) Some windows are rings No window is stone
 - III) Some rings are stones
- (A) Only I follow
 - (B) Either I or II follow
 - (C) Only II and III follow
 - (D) II and either I or III follow

27. Consider below statements

- a) Some fruits are vegetables.
- b) All liquids are drinks.
- c) All drinks are fruits.

Conclusions —

- I) Some drinks are vegetables.
 - II) Some fruits are liquids.
 - III) All liquids are fruits.
 - IV) No liquids are vegetables.
- (A) Only I and II follow
 - (B) Only II and III follow
 - (C) Only I, II & III follow
 - (D) None of these

28. Consider the following statements

- a) Some desks are chairs
- b) All chairs are tables
- c) Some tables are mats

Conclusions —

- I) Some mats are desks
- II) Some tables are desks
- III) Some mats are chairs
- (A) Only II follow
- (B) Either I or II follow
- (C) Only II and III follow
- (D) II and either I or III follow

29. Consider below statements

- a) All shirts are trousers.
- b) Some socks are shoes.
- c) All shoes are shirts.

Conclusions —

- I) Some socks are shirts.
- II) Some socks are trousers.
- III) All shoes are trousers.
- IV) All shoes are socks.
- (A) Only I and II follow
- (B) Only II and IV follow
- (C) Only III and IV follow
- (D) None of these

30. Consider below statements

- a) Some books are papers.
- b) All plates are records.
- c) Some records are books.

Conclusions —

- I) Some plates are books.
- II) Some records are papers.
- III) Some papers are plates.
- IV) Some books are records.
- (A) Only II and III follow
- (B) Only I and III follow
- (C) Only IV follows
- (D) None of these

31. Consider the following statements

- a) All sweets are fruits

- b) No fruit is pencil
- c) Some pencils are glasses

Conclusions —

- I) Some glasses are sweets
- II) Some pencils are sweets No glass is sweet
- (A) Only I follow
- (B) Either I or II follow
- (C) Only II and III follow
- (D) II and either I or III follow

32. Consider below statements

- a) Some ice are ring.
- b) No ring is paint.
- c) Some rings are gold.

Conclusions —

- I) No gold is paint.
- II) No ice is gold.
- III) Some rings are paints.
- IV) All golds are rings.
- (A) Only I and II follow
- (B) Only III and IV follow
- (C) Only II and III follow
- (D) None of these

33. Consider below statements

- a) All gates are flowers.
- b) Some gates are fruits.
- c) Some flowers are clips.

Conclusions —

- I) Some flowers are fruits.
- II) Some clips are fruits.
- III) Some clips are gates.
- IV) No flower is fruit.
- (A) Only I follows
- (B) Only I and IV follow
- (C) Only II and IV follow
- (D) Only I and III follow

34. Consider the following statements

- a) Some books are flowers
- b) Some flowers are chains

c) Some chains are hammers

Conclusions —

- I) Some hammers are flowers
 - II) Some chains are books
 - III) Some hammers are books
- (A) Only I follow
 (B) Either I or II follow
 (C) Only II and I follow
 (D) None follows

35. Consider below statements

- a) No candle is bell.
- b) Some shoes are bells.
- c) All tables are shoes.

Conclusions —

- I) Some tables are bells.
 - II) No table is bell.
 - III) Some shoes are candles.
 - IV) No shoe is a candle.
- (A) Only I and IV follow
 (B) Only III and IV follow
 (C) Only II and IV follow
 (D) None of these

36. Consider below statements

- a) Some films are clouds.
- b) All rats are clouds.
- c) Some clouds are chairs.

Conclusions —

- I) No film is chair.
 - II) Some rats are films.
 - III) Some clouds are rats.
 - IV) Some chairs are rats.
- (A) Only I and III follow
 (B) No conclusion follows
 (C) Only IV follows
 (D) None of these

37. Consider the following statements

- a) All roofs are cameras
- b) Some cameras are photographs
- c) Some photographs are stores

Conclusions —

- I) Some stores are cameras
 - II) Some stores are roofs
 - III) Some cameras are roofs
- (A) Only III follow
 (B) Either I or II follow
 (C) Only II and III follow
 (D) II and either I or III follow

38. Consider below statements

- a) Some cups are slates.
- b) All slates are apples.
- c) No apple is a car.

Conclusions —

- I) Some cars are slates.
 - II) Some cups are cars.
 - III) Some apples are cups.
 - IV) No car is a cup.
- (A) Only III follows
 (B) Only IV follows
 (C) Either II or IV & III follow
 (D) None of these

39. Consider below statements

- a) All buds are bells.
- b) Some buds are cakes.
- c) Some bells are sponges.

Conclusions —

- I) Some cakes are sponges.
 - II) Some bells are buds.
 - III) Some sponges are not cakes.
 - IV) Some bells are not sponges.
- (A) Only either I or III and II follow
 (B) Only II and III follow
 (C) Only either I or IV and II follow
 (D) None of these

40. Consider the following statements

- a) Some nails are horses
- b) All horses are tablets
- c) All tablets are crows

Conclusions —

- I) Some crows are nails
 - II) Some tablets are nails
 - III) Some crows are horses
- (A) Only I follow
 (B) Either I or II follow
 (C) Only II and III follow
 (D) All I, II and III follow

41. Consider below statements

- a) No machine is a fly.
- b) Some flies are colours.
- c) All colours are sweets.

Conclusions —

- I) Some machines are colours.
 - II) All sweets are colours.
 - III) Some sweets are flies.
 - IV) No sweet is a machine.
- (A) Only I and II follow
 (B) Only IV follows
 (C) Only III follows
 (D) None of these

42. Consider below statements

- a) Some kings are cars.
- b) Some cars are bottles.
- c) No bottle is a lemon.

Conclusions —

- I) Some cars are lemons.
 - II) No king is a lemon.
 - III) Some kings are bottles.
 - IV) All cars are either kings or bottles.
- (A) Only either I or II and III follow
 (B) Only III or IV follows
 (C) Only IV follows
 (D) None of these

43. Consider below statements

- a) Some goats are hammers.
- b) All hammers are diamonds.
- c) No diamond is green.

Conclusions —

- I) No goat is green.

- II) Some diamonds are hammers.
 - III) Some goats are diamonds.
 - IV) Some greens are hammers.
- (A) Only I and IV follow
 (B) Only II and IV follow
 (C) Only II and III follow
 (D) Only either II or III and I follow

44. Consider the following statements

- a) All buildings are towers
- b) All towers are roads
- c) All roads are huts

Conclusions —

- I) Some roads are buildings
 - II) All towers are huts
 - III) All huts are roads
- (A) Only I and II follow
 (B) Either I or II follow
 (C) Only II and III follow
 (D) II and either I or III follow

45. Consider below statements

- a) Some cars are mopeds.
- b) Some mopeds are hills.
- c) All pencils are mopeds.

Conclusions —

- I) All pencils are hills.
 - II) Some pencils are cars.
 - III) Some cars are hills.
 - IV) Some pencils are not cars.
- (A) Only I follows
 (B) Only either II or IV follows
 (C) Only I or III follows
 (D) Only I and IV follow

46. Consider below statements

- a) Some pages are papers.
- b) Some papers are magazines.
- c) All magazines are books.

Conclusions —

- I) Some books are magazines.
- II) Some books are papers.
- III) Some magazines are pages.
- IV) Some pages are magazines.

- (A) All follow
- (B) Only I and III follow
- (C) Only II and IV follow
- (D) None of these

47. Consider below statements

- a) All windows are doors.
- b) No door is a lock.
- c) Some locks are keys.

Conclusions —

- I) Some locks are doors.
 - II) Some locks are not doors.
 - III) Some keys are not doors.
 - IV) All doors are windows.
- (A) All follow
 - (B) Only either I or II follows
 - (C) None follows
 - (D) None of these

48. Consider below statements

- a) Some shirts are coats.
- b) All coats are jackets.
- c) Some jackets are trousers.

Conclusions —

- I) Some shirts are jackets.
 - II) Some jackets are shirts.
 - III) All trousers are jackets.
 - IV) Some trousers are jackets.
- (A) Only I, II and III follow
 - (B) Only I, II and IV follow
 - (C) Only II, III and IV follow
 - (D) None of these

49. Consider the following statements

- a) All cups are benches
- b) Some benches are drums
- c) All drums are kites

Conclusions —

- I) Some kites are cups
- II) Some kites are benches
- III) Some drums are cups

- (A) Only I follow
- (B) Either I or II follow
- (C) Only II and III follow
- (D) II and either I or III follow

50. Consider the following statements

- a) Some bikes are cars
- b) Some cars are trains
- c) Some trains are buses

Conclusions —

- I) Some buses are cars
 - II) Some trains are bikes
 - III) Some buses are bikes
- (A) Only I follow
 - (B) Either I or II follow
 - (C) Only II and III follow
 - (D) None follows

51. Consider the following statements

- a) All dogs are cats
- b) Some cats are rats
- c) All rats are mats

Conclusions —

- I) Some mats are cats
 - II) Some mats are dogs
 - III) Some rats are cats
- (A) Only I and III follow
 - (B) Either I or II follow
 - (C) Only II and III follow
 - (D) II and either I or III follow

52. Consider below statements

- a) All bikes are scooters.
- b) All scooters are scooties.
- c) All scooties are mopeds.

Conclusions —

- I) All mopeds are scooties.
- II) All scooties are scooters.
- III) All scooters are bikes.
- IV) All bikes are mopeds.

- (A) None follows
- (B) Only III and IV follow
- (C) Only IV follows
- (D) None of these

53. Consider below statements

- a) Some pots are buckets.
- b) Some buckets are bags.
- c) Some bags are purses.

Conclusions —

- I) Some purses are buckets.
 - II) Some bags are pots.
 - III) Some purses are pots.
 - IV) Some pots are bags.
- (A) All follow
 - (B) None follows
 - (C) Only II and IV follow
 - (D) None of these

54. Consider the following statements

- a) All pens are sticks
- b) All sticks are rings
- c) All rings are rods

Conclusions —

- I) Some rings are pens
 - II) Some rods are sticks
 - III) Some rods are pens
- (A) Only I follow
 - (B) Either I or II follow
 - (C) Only II and III follow
 - (D) All I, II and III follow

55. Consider the following statements

- a) Some tables are chairs
- b) All chairs are houses
- c) All houses are tents

Conclusions —

- I) All houses are chairs
- II) Some tents are chairs
- III) Some houses are tables

- (A) Only I follow
- (B) Either I or II follow
- (C) Only II and III follow
- (D) II and either I or III follow

56. Consider the following statements

- a) Some pencils are kites
- b) Some kites are desks
- c) All desks are jungles
- d) All jungles are mountains

Conclusions —

- I) Some mountains are pencils
 - II) Some jungles are pencils
 - III) Some mountains are desks
 - IV) Some jungles are kites
- (A) Only III and IV follow
 - (B) Either I or II follow
 - (C) Only II and III follow
 - (D) Both I and II follows

57. Consider the following statements

- a) All cups are bottles
- b) Some bottles are jugs No jug is plate
- c) Some plates are tables

Conclusions —

- I) Some tables are bottles
 - II) Some plates are cups
 - III) No table is bottle
 - IV) Some jugs are cups
- (A) Only I follow
 - (B) Either I or II follow
 - (C) Only II and III follow
 - (D) Either I or III follows

58. Consider the following statements

- a) Some chairs are handles
- b) All handles are pots
- c) All pots are mats
- d) Some mats are buses

Conclusions —

- I) Some buses are handles
- II) Some mats are chairs No bus is handle

- III) Some mats are handles
 (A) Only I follow
 (B) Either I or II follow
 (C) Only II and III follow
 (D) II and IV and I or III follow

59. Consider below statements

- a) All flowers are buses
 b) Some buses are cats
 c) All cats are tigers

Conclusions —

- I) Some tigers are buses
 II) Some tigers are flowers
 III) Some cats are flowers
 IV) Some buses are tigers
 (A) Only I and IV follow
 (B) Either I or II follow
 (C) Only II and III follow
 (D) Only I and III follow

60. Consider below statements

- a) All fans are rooms
 b) No room is green
 c) Some windows are green

Conclusions —

- I) Some windows are fans
 II) Some windows are rooms
 III) Some fans are green
 IV) No green is fan
 (A) IV follow
 (B) Either I or II follow
 (C) Only II and III follow
 (D) Only I and III follow

61. Consider below statements

- a) Some tablets are rains
 b) All dogs are rains
 c) All rains are chairs

Conclusions —

- I) Some chairs are tablets
 II) All dogs are chairs

- III) Some tablets are dogs
 IV) Some tablets are chairs
 (A) Only I and IV follow
 (B) Either I or II follow
 (C) Only II and III follow
 (D) Only I, II and IV follow

62. Consider below statements

- a) No man is sky
 b) No sky is road
 c) Some men are roads

Conclusions —

- I) No road is man
 II) No road is sky
 III) Some skies are men
 IV) All roads are men
 (A) Only II follow
 (B) Either I or II follow
 (C) Only II and III follow
 (D) Only I and III follow

63. Consider below statements

- a) All players are spectators
 b) Some spectators are theatres
 c) Some theatres are dramas

Conclusions —

- I) Some dramas are spectators
 II) Some players are dramas
 III) Some theatres are players
 IV) All spectators are players
 (A) Only I and IV follow
 (B) Either I or II follow
 (C) Only II and III follow
 (D) None follows

64. Consider below statements

- a) Some buckets are waters
 b) All waters are papers
 c) Some papers are woods

Conclusions —

- I) Some woods are waters
 II) Some buckets are woods
 III) Some papers are buckets
 IV) Some woods are buckets

- (A) Only I and IV follow
- (B) Either I or II follow
- (C) Only II and III follow
- (D) Only III follows

65. Consider below statements

- a) Some rings are phones
- b) Some phones are computers
- c) Some computers are stations

Conclusions —

- I) Some stations are rings
- II) Some phones are stations
- III) Some computers are rings
- IV) All rings are stations
- (A) Only I and IV follow
- (B) Either I or II follow
- (C) Only II and III follow
- (D) None follows

66. Consider below statements

- a) All leaves are inks
- b) No ink is brush
- c) All cakes are brushes

Conclusions —

- I) Some cakes are leaves
- II) Some inks are cakes
- III) Some inks are leaves
- IV) Some cakes are brushes
- (A) Only I and IV follow
- (B) Either I or II follow
- (C) Only II and III follow
- (D) III and IV follow

67. Consider below statements

- a) All needles are threads
- b) All threads are boxes
- c) All trees are boxes

Conclusions —

- I) No needle is tree
- II) Some trees are threads
- III) Some boxes are needles
- IV) Some trees are needles

- (A) Only I and III follow
- (B) Either I or II follow
- (C) Only II and III follow
- (D) Only either I or IV and III follow

68. Consider below statements

- a) Some tents are buildings
- b) Some buildings are chairs
- c) Some chairs are windows

Conclusions —

- I) Some windows are buildings
- II) Some windows are tents
- III) Some chairs are tents
- (A) Only I and III follow
- (B) Either I or II follow
- (C) Only II and III follow
- (D) None follows

69. Consider below statements

- a) All tables are boards
- b) All pens are boards
- c) All boards are papers

Conclusions —

- I) Some pens are tables
- II) Some papers are pens
- III) No pen is table
- (A) Only I and III follow
- (B) Either I or II follow
- (C) Only III and III follow
- (D) Only either I or III and II follow

70. Consider below statements

- a) All chains are cycles
- b) Some cycles are wheels
- c) All wheels are mirrors

Conclusions —

- I) Some cycles are mirrors
- II) Some wheels are chains
- III) Some mirrors are cycles
- (A) All follow
- (B) Either I or II follow
- (C) Only II and III follow
- (D) Only I and III follow

71. Consider below statements

- a) Some boxes are hammers
- b) Some hammers are beads
- c) All beads are rings

Conclusions —

- I) Some rings are hammers
 - II) Some hammers are boxes
 - III) Some rings are boxes
- (A) Only I and III follow
 - (B) Either I or II follow
 - (C) Only II and III follow
 - (D) Only I and II follow

72. Consider below statements

- a) All jackets are trousers
- b) No trouser is shirt
- c) Some shirts are caps

Conclusions —

- I) Some caps are jackets
 - II) Some shirts are jackets
 - III) Some trousers are jackets
- (A) Only I and III follow
 - (B) Either I or II follow
 - (C) Only II and III follow
 - (D) Only III follows

73. Consider below statements

- a) Some cameras are binoculars
- b) All binoculars are spoons
- c) Some spoons are cups

Conclusions —

- I) Some cups are binoculars
 - II) Some spoons are cameras
 - III) Some cups are cameras
- (A) Only I and III follow
 - (B) Either I or II follow
 - (C) Only II and III follow
 - (D) Only II follows

74. Consider below statements

- a) All hotels are airports
- b) All airports are belts

- c) Some belts are hooks

Conclusions —

- I) Some belts are hotels
 - II) Some airports are hotels
 - III) Some hooks are belts
- (A) All follow
 - (B) Either I or II follow
 - (C) Only II and III follow
 - (D) Only I and III follow

75. Consider below statements

- a) All pins are rods
- b) Some rods are chains
- c) All chains are hammers

Conclusions —

- I) Some pins are hammers
 - II) Some hammers are rods
 - III) No pin is hammer
- (A) Only I and II follow
 - (B) Either I or II follow
 - (C) Only II and III follow
 - (D) Only either I or III and II follow

76. Consider below statements

- a) Some books are papers
- b) Some papers are desks
- c) Some desks are chairs

Conclusions —

- I) Some books are desks
 - II) Some papers are chairs
 - III) Some books are chairs
- (A) Only I and III follow
 - (B) Either I or II follow
 - (C) Only II and III follow
 - (D) None follows

77. Consider below statements

- a) Some pots are buckets
- b) All buckets are tubs
- c) All tubs are drums

Conclusions —

- I) Some drums are pots

- II) All tubs are buckets
 III) Some drums are buckets
 (A) none follow
 (B) Either I or II follow
 (C) Only II and III follow
 (D) Only I and III follow

78. Consider below statements

- a) All pins are bags
 b) All chawks are bags
 c) All needles are bags

Conclusions —

- I) Some needles are pins
 II) Some chawks are needles
 III) No needle is pin
 (A) Only I and III follow
 (B) Either I or II follow
 (C) Only II and III follow
 (D) Only either I or III follows

79. Consider below statements

- a) Some buses are trucks
 b) Some trucks are boats
 c) No boat is jeep

Conclusions —

- I) Some jeeps are buses
 II) Some boats are buses
 III) Some jeeps are trucks
 (A) Only I and III follow
 (B) Either I or II follow
 (C) Only II and III follow
 (D) None follows

80. Consider below statements

- a) All flowers are trees
 b) All trees are jungles
 c) No jungle is hill

Conclusions —

- I) No flower is hill
 II) No tree is hill
 III) Some jungles are flowers

- (A) Only I and III follow
 (B) Either I or II follow
 (C) Only II and III follow
 (D) All follow

81. Consider below statements

- a) All tables are sofas
 b) All sofas are beds
 c) All beds are mats

Conclusions —

- I) Some mats are sofas
 II) Some beds are tables
 III) Some mats are tables
 (A) Only I and III follow
 (B) Either I or II follow
 (C) Only II and III follow
 (D) All follow

82. Consider below statements

- a) Some plates are spoons
 b) All spoons are forks
 c) All forks are bowls
 Some bowls are utensils

Conclusions —

- I) Some plates are bowls
 II) All spoons are bowls
 III) Some forks are utensils
 (A) Only I and III follow
 (B) Either I or II follow
 (C) Only II and III follow
 (D) Only I and II follow

83. Consider below statements

- a) Some books are files
 b) All files are discs
 c) Some discs are boards
 d) All boards are keys

Conclusions —

- I) Some books are keys
 II) No book is key
 III) Some discs are keys

- (A) Only I and III follow
- (B) Either I or II follow
- (C) Only II and III follow
- (D) Either I or II and III follow

84. Consider below statements

- a) All buses are trains
- b) Some trains are cars
- c) No car is scooter
- d) All scooter are jeeps

Conclusions —

- I) Some cars are buses
- II) All jeeps are scooters
- III) No jeep is train
- (A) Only I and III follow
- (B) Either I or II follow
- (C) Only II and III follow
- (D) None follows

85. Consider below statements

- a) All curtains are pillows
- b) No pillow is mattress
- c) Some mattresses are beds
- d) All beds are sofas

Conclusions —

- I) No bed is pillow
- II) Some mattresses are sofas
- III) Some beds are pillows
- (A) Only I and III follow
- (B) Either I or II follow
- (C) Only II and III follow
- (D) Only II and either I or III follow

86. Consider below statements

- a) Some pulses are grains
- b) Some grains are sprouts
- c) All sprouts are nuts
- d) No fruit is nut

Conclusions —

- I) Some nuts are pulses
- II) Some nuts are grains
- III) No fruit is sprout

- (A) Only I and III follow
- (B) Either I or II follow
- (C) Only II and III follow
- (D) Only II and III follow

87. Consider below statements

- a) Some tables are jugs
- b) Some jugs are pots
- c) All pots are plates

Conclusions —

- I) Some plates are jugs
- II) Some pots are tablets
- III) Some plates are tablets
- (A) Only I follow
- (B) Either I or II follow
- (C) Only II and III follow
- (D) Only I and III follow

88. Consider below statements

- a) All chairs are rings
- b) Some rings are sticks
- c) All sticks are branches

Conclusions —

- I) Some branches are chairs
- II) Some branches are rings
- III) Some sticks are chairs
- (A) Only II follow
- (B) Either I or II follow
- (C) Only II and III follow
- (D) Only I and III follow

89. Consider below statements

- a) All bulbs are chairs
- b) All chairs are tablets
- c) All tables are mirrors

Conclusions —

- I) Some mirrors are bulbs
- II) Some tables are bulbs
- III) All chairs are mirrors
- (A) Only I and III follow
- (B) Either I or II follow
- (C) Only IV and III follow
- (D) All follow

90. Consider below statements

- a) All knives are hammers
- b) No hammer is sword
- c) Some swords are nails

Conclusions —

- I) Some nails are hammers
 - II) Some swords are knives
 - III) No nail is hammer
- (A) Only I and III follow
 - (B) Either I or II follow
 - (C) Only IV and III follow
 - (D) Only either I or III follows

91. Consider below statements

- a) Some fruits are trees
- b) All trees are jungles
- c) All jungles are roads

Conclusions —

- I) All fruits are jungles
 - II) Some roads are fruits
 - III) Some jungles are fruits
- (A) Only I and III follow
 - (B) Either I or II follow
 - (C) Only I and III follow
 - (D) Only II and III follow

92. Consider below statements

- a) Some books are pens
- b) Some pens are desks
- c) Some desk are racks

Conclusions —

- I) Some racks are pens
 - II) Some desks are books
 - III) Some racks are books
- (A) Only I and III follow
 - (B) Either I or II follow
 - (C) Only I and III follow
 - (D) None follow

93. Consider below statements

- a) No room is house
- b) No house is building

c) Some buildings are huts

Conclusions —

- I) Some huts are rooms
 - II) Some huts are houses
 - III) Some huts are buildings
- (A) Only I and III follow
 - (B) Either I or II follow
 - (C) Only II and III follow
 - (D) Only III follows

94. Consider below statements

- a) All houses are window
- b) All roads are windows
- c) All toys are windows

Conclusions —

- I) Some toys are houses
 - II) Some roads are houses
 - III) Some roads are toys
- (A) Only I and III follow
 - (B) Either I or II follow
 - (C) Only II and III follow
 - (D) None follows

95. Consider below statements

- a) All chairs are fruits
- b) No fruit is nail
- c) Some nails are hammers

Conclusions —

- I) Some hammers are fruits
 - II) Some nails are fruits
 - III) Some fruits are chairs
- (A) Only I and III follow
 - (B) Either I or II follow
 - (C) Only II and III follow
 - (D) Only III follows

96. Consider below statements

- a) All benches are rivers
- b) All rivers are ponds
- c) Some ponds are hills

Conclusions —

- I) Some ponds are benches

- II) Some hills are benches
 III) Some rivers are benches
 (A) Only I and III follow
 (B) Either I or II follow
 (C) Only II and III follow
 (D) All follow

97. Consider below statements

- a) Some rings are bangles
 b) Some bangles are beads
 c) Some beads are flowers

Conclusions —

- I) Some flowers are rings
 II) Some flowers are bangles
 III) No ring is flower
 (A) Only I and II follow
 (B) Either I or II follow
 (C) Only II follows
 (D) Only Either I or III follows

98. Consider below statements

- a) Some bats are dogs
 b) All dogs are tigers
 c) Some tigers are rats

Conclusions —

- I) Some rats are bats
 II) Some tigers are bats
 III) Some rats are dogs
 (A) Only III follow
 (B) Either I or II follow
 (C) Only II follows
 (D) None follows

99. Consider below statements

- a) Some chairs are pens
 b) All pens are books
 c) Some books are walls

Conclusions —

- I) Some walls are pens
 II) Some books are chairs
 III) Some walls are chairs

- (A) Only III follow
 (B) Either I or II follow
 (C) Only II follows
 (D) None follows

100. Consider below statements

- a) Some robots are machines
 b) Some computers are both robots and machines
 c) Some animals are machines
 d) Some toys are animals

Conclusions —

- I) Some toys are robots
 II) Some toys are machines
 III) Some animals are computers
 IV) Some robots are not toys
 (A) Only III follow
 (B) Either I or II follow
 (C) Only II follows
 (D) Only Either I or IV follows

101. Consider below statements

- a) All suns are stars
 b) All moons are stars
 c) Some planets are suns
 d) Some stars are gases

Conclusions —

- I) Some stars are planets
 II) Some suns are gases
 III) No moon is a planet
 IV) Some gases are moons
 (A) Only I follow
 (B) Either I or II follow
 (C) Only III and IV follows
 (D) None follows

102. Consider below statements

- a) All books are diaries
 b) Some diaries are pens
 c) Some pens are drawers
 d) All drawers are chairs

Conclusions —

- I) Some drawers are diaries
- II) Some chairs are pens
- III) Some pens are books
- IV) Some diaries are books

- (A) Only III follow
- (B) Either I or II follow
- (C) Only II follows
- (D) Only II and IV follows

103. Consider below statements

- a) Some buildings are rivers
- b) Some mountains are both buildings and rivers
- c) Some roads are buildings
- d) All roads are trucks

Conclusions —

- I) Some mountains are roads
 - II) Some buildings are trucks
 - III) Some rivers are roads
 - IV) Some trucks are rivers
- (A) Only IV follow
 - (B) Either I or II follow
 - (C) Only II follows
 - (D) None follows

104. Consider below statements

- a) All tables are round
- b) Some hills are round
- c) Some rivers are hills
- d) All rivers are conical

Conclusions —

- I) Some rivers are round
 - II) Some hills are conical
 - III) Some rivers are both hills and round
 - IV) Some tables are conical
- (A) Only IV follow
 - (B) Either I or III follow
 - (C) Only II follows
 - (D) None follows

105. Consider below statements

- a) All pens are books
- b) All books are chairs

- c) Some chairs are desks
- d) Some desks are tables

Conclusions —

- I) Some tables are chairs
 - II) Some desks are pens
 - III) Some chairs are pens
 - IV) All pens are chairs
- (A) Only IV follow
 - (B) Either I or II follow
 - (C) Only II follows
 - (D) Only III and IV follow

106. Consider below statements

- a) Some trains are buses
- b) Some buses are trucks
- c) Some trucks are boats
- d) Some boats are cars

Conclusions —

- I) Some trucks are trains
 - II) Some cars are trucks
 - III) Some boats are buses
 - IV) Some boats are trains
- (A) Only IV follow
 - (B) Either I or III follow
 - (C) Only II follows
 - (D) None follows

107. Consider below statements

- a) Some chains are bangles
- b) Some bangles are rings
- c) All rings are tyres.
- d) All tyres are tables

Conclusions —

- I) Some tables are bangles
 - II) Some tyres are bangles
 - III) Some tables are chains
 - IV) Some tyres are chains
- (A) Only IV follow
 - (B) Either I or III follow
 - (C) Only I and II follows
 - (D) None follows

108. Consider below statements

- a) All hills are roads
- b) All roads are stones
- c) All stones are jungles
- d) All jungles are rivers

Conclusions —

- I) Some rivers are stones
- II) Some jungles are hills
- III) Some stones are hills
- IV) All rivers are jungles
- (A) Only IV follow
- (B) Either I or II follow
- (C) Only II and IV follows
- (D) Only I, II and III follow

109. Consider below statements

- a) All needles are threads
- b) Some threads are clothes
- c) No cloth is room
- d) All rooms are houses

Conclusions —

- I) Some houses are needles
- II) Some rooms are threads
- III) No house is needle
- IV) Some clothes are needles
- (A) Only IV follow
- (B) Either I or II follow
- (C) Only II follows
- (D) Only either I or III follows

110. Consider below statements

- a) Some bags are toys
- b) All toys are curtains
- c) Some curtains are walls
- d) All walls are roofs

Conclusions —

- I) Some roofs are curtains
- II) Some walls are toys
- III) Some walls are bags
- IV) Some curtains are bags
- (A) Only III follow
- (B) Either I or II follow
- (C) Only II and IV follows
- (D) Only I and IV follow

111. Consider below statements

- a) Some roses are flowers
- b) Some flowers are buds
- c) All buds are leaves
- d) All leaves are plants

Conclusions —

- I) Some plants are flowers
- II) Some roses are buds
- III) No leaves are roses
- IV) No roses are buds
- (A) Only IV follow
- (B) Either I or II follow
- (C) Only III follows
- (D) Only I and either II or IV follow

112. Consider below statements

- a) Some books are journals
- b) All journals are papers
- c) Some papers are cards
- d) All cards are boards

Conclusions —

- I) Some papers are books
- II) Some papers are boards
- III) Some boards are journals
- IV) Some boards are books
- (A) Only I and II follow
- (B) Either I or IV follow
- (C) Only I and II follows
- (D) None follows

113. Consider below statements

- a) Some grapes are apples
- b) Some apples are bananas
- c) All bananas are guavas
- d) No guava is pomegranate

Conclusions —

- I) No grapes are pomegranates
- II) Some guavas are grapes
- III) Some guavas are apples
- IV) No bananas are pomegranates

- (A) Only I follow
- (B) Either I or II follow
- (C) Only IV follows
- (D) Only III and IV follow

114. Consider below statements

- a) Some doors are walls
- b) All walls are floors
- c) All floors are rooms
- d) Some rooms are windows

Conclusions —

- I) All walls are rooms
- II) Some rooms are doors
- III) Some rooms are walls
- IV) Some floors are doors
- (A) Only I and III follow
- (B) Either I or II follow
- (C) Only VI follows
- (D) All follow

115. Consider below statements

- a) Some spoons are forks
- b) Some forks are bowls
- c) All bowls are plates
- d) Some plates are utensils

Conclusions —

- I) Some utensils are forks
- II) Some plates are forks
- III) Some plates are spoons
- IV) Some utensils are spoons
- (A) Only I and III follow
- (B) Either IV or II follow
- (C) Only II follows
- (D) None follows

116. Consider below statements

- a) All chairs are tables
- b) All tables are desks
- c) Some desks are benches
- d) Some desks are sofas

Conclusions —

- I) Some benches are sofas

- II) Some sofas are tables
- III) Some benches are tables
- IV) No chair is bench

- (A) Only I and III follow
- (B) Either I or II follow
- (C) Only IV follows
- (D) None follows

117. Consider below statements

- a) Some sweets are chocolates
- b) Some chocolates are mints
- c) Some mints are food
- d) Some food is diet

Conclusions —

- I) No sweets are diet
- II) No food is chocolates
- III) Some sweets are diet
- IV) Some sweets are food
- (A) Only I and III follow
- (B) Either I or II follow
- (C) Only IV follows
- (D) Either I or III follows

118. Consider below statements

- a) All windows are doors
- b) All buildings are doors
- c) All doors are boats

Conclusions —

- I) All windows are boats
- II) All buildings are boats
- III) Some boats are doors
- (A) Only I follow
- (B) Either I or II follow
- (C) Only III follows
- (D) All follow

119. Consider below statements

- a) Some desks are chairs
- b) Some chairs are pens
- c) Some pens are drawers

Conclusions —

- I) Some drawers are desks
- II) Some drawers are chairs
- III) No drawer is chair

- (A) Only I follow
- (B) Either I or II follow
- (C) Only III follows
- (D) Only Either II or III follows

120. Consider below statements

- a) All flowers are trees
- b) Some trees are houses
- c) All houses are wheels

Conclusions —

- I) Some wheels are trees
- II) Some trees are flowers
- III) Some wheels are flowers

- (A) Only I follow
- (B) Either I or III follow
- (C) Only II follows
- (D) Only I and II follow

121. Consider below statements

- a) Some radios are telephones
- b) All telephones are mirrors
- c) All mirrors are desks

Conclusions —

- I) Some radios are desks
- II) Some radios are mirrors
- III) Some desks are telephones

- (A) Only I follow
- (B) Either I or II follow
- (C) Only II and III follows
- (D) All follow

122. Consider below statements

- a) All furniture are jungles
- b) No jungle is road
- c) Some roads are hills

Conclusions —

- I) Some roads are furniture
- II) Some jungles are furniture
- III) Some hills are jungles

- (A) Only III follow
- (B) Either I or II follow
- (C) Only II follows
- (D) None follows

123. Consider the following statements

- a) Some boxes are walls
- b) No wall is roads
- c) All roads are rivers

Conclusions —

- I) Some rivers are walls
- II) Some roads are boxes
- III) No wall is river

- (A) Only I follow
- (B) Either I or II follow
- (C) Only II and III follow
- (D) Only either I or III follows

124. Consider below statements

- a) All biscuits are chocolates.
- b) Some chocolates are breads.
- c) All breads are pastries.

Conclusions —

- I) Some biscuits are pastries.
- II) Some pastries are chocolates.
- III) Some biscuits are not pastries.
- IV) All pastries are breads.

- (A) Only I, II and III follow
- (B) Only either I or III and II follow
- (C) Only either I or III and IV follow
- (D) None of these

125. Consider below statements

- a) All glasses are roads.
- b) No road is a stick.
- c) Some sticks are pens.

Conclusions —

- I) Some glasses are sticks.
- II) Some pens are sticks.
- III) Some roads are sticks.
- IV) No glass is a stick.
- (A) None follows

- (A) Only either I or II and IV follows
- (B) Only either I or II and IV follow
- (C) None of these

126. Consider below statements

- a) Some lions are goats.

- b) Some goats are horses.
- c) Some horses are flowers.

Conclusions —

- I) Some lions are horses.
 - II) Some goats are flowers.
 - III) Some lions are flowers.
 - IV) Some horses are lions.
- (A) None follows
 - (B) Only I and IV follow
 - (C) Only II and III follow
 - (D) None of these

127. Consider below statements

- a) All trees are books.
- b) Some books are tables.
- c) All tables are pencils.

Conclusions —

- I) Some pencils are tables.
 - II) Some books are trees.
 - III) Some tables are trees.
 - IV) Some pencils are trees.
- (A) None follows
 - (B) All follow
 - (C) Only either I or II follows
 - (D) None of these

128. Consider below statements

- a) Some doors are windows.
- b) All windows are dogs.
- c) Some dogs are cats.

Conclusions —

- I) Some dogs are doors.
 - II) All dogs are doors.
 - III) Some cats are windows.
 - IV) Some dogs are windows.
- (A) Only I and II follow
 - (B) Only II and III follow
 - (C) Only I and IV follow
 - (D) All follow
 - (E) None of these

129. Consider below statements

- a) All buses are trains.
- b) All trains are rickshaws.
- c) All rickshaws are cycles.

Conclusions —

- I) All cycles are buses.
 - II) All rickshaws are buses.
 - III) All buses are rickshaws.
 - IV) All trains are cycles.
- (A) All follow
 - (B) None follows
 - (C) Only II and III follow
 - (D) None of these

130. Consider below statements

- a) Some bricks are trees.
- b) All trees are pens.
- c) All pens are boats.

Conclusions —

- I) Some boats are bricks
 - II) Some pens are bricks
 - III) Some trees are bricks
 - IV) Some bricks are boats
- (A) All follow
 - (B) Only I and II follow
 - (C) Only III and IV follow
 - (D) None of these

131. Consider below statements

- a) All cups are tables.
- b) No table is water.
- c) Some waters are clothes.

Conclusions —

- I) No cloth is cup.
 - II) No cloth is table.
 - III) Some clothes are waters.
 - IV) Some waters are cups.
- (A) All follow
 - (B) Only III follows
 - (C) Only I and II follow
 - (D) None of these

132. Consider below statements

- a) Some flowers are rods.
- b) Some rods are doors.
- c) Some doors are houses.

Conclusions—

- I) Some houses are flowers.
- II) Some doors are flowers.
- III) Some flowers are doors.
- IV) No house is flower.
- (A) Only II and III follow
- (B) Only either I or II follows
- (C) Only either I or IV follows
- (D) None of these

133. Consider below statements

- a) All trucks are vans.
- b) All vans are cars.
- c) All cars are trains.

Conclusions—

- I) All trains are trucks.
- II) All cars are trucks.
- III) All trucks are trains.
- IV) All vans are trains.
- (A) All follow
- (B) Only I and II follow
- (C) Only II and IV follow
- (D) None of these

134. Consider below statements

- a) No table is fruit.
- b) No fruit is window.
- c) All windows are chairs.

Conclusions—

- I) No window is table.
- II) No chair is fruit.
- III) No chair is table.
- IV) All chairs are windows.
- (A) None follows
- (B) Only I and II follow
- (C) Only III & IV follow
- (D) None of these

135. Consider below statements

- a) All birds are fruits.
- b) Some fruits are towers.
- c) All towers are windows.

Conclusions—

- I) Some birds are towers.
- II) Some windows are birds.
- III) Some windows are fruits.
- IV) Some towers are birds.
- (A) None follows
- (B) Only I and II follow
- (C) Only III follows
- (D) All follow

136. Consider below statements

- a) Some buses are trains.
- b) No train is a dog.
- c) All dogs are parrots.

Conclusions—

- I) No bus is a parrot.
- II) Some parrots are trains.
- III) Some parrots are buses.
- IV) No dog is a bus.
- (A) Only either I or III follows
- (B) Only IV follows
- (C) Only I and III follow
- (D) None of these

137. Consider below statements

- a) Some cups are flowers.
- b) Some flowers are boxes.
- c) All boxes are tigers.

Conclusions—

- I) Some tigers are cups.
- II) Some tigers are flowers.
- III) Some boxes are cups.
- IV) No tiger is a flower.
- (A) None follows
- (B) Only III follows
- (C) Only either I or III follows
- (D) None of these

138. Consider below statements

- a) Some cats are lions.
- b) All lions are hares.
- c) All hares are horses.

Conclusions —

- I) Some cats are horses.
 - II) Some horses are lions.
 - III) Some hares are cats.
 - IV) Some cats are hares.
- (A) Only I and II follow
 - (B) Only I and III follow
 - (C) All follow
 - (D) None of these

139. Consider below statements

- a) All boats are rivers.
- b) All rivers are mangoes.
- c) All mangoes are apples.

Conclusions —

- I) All apples are boats.
 - II) All mangoes are boats.
 - III) All rivers are apples.
 - IV) All boats are apples.
- (A) All follow
 - (B) Only I, III and IV follow
 - (C) Only II, III and IV follow
 - (D) None of these

140. Consider below statements

- a) Some boxes are trees.
- b) Some trees are horses,
- c) All horses are fruits.

Conclusions —

- I) Some fruits are boxes.
 - II) Some fruits are trees.
 - III) Some horses are boxes.
 - IV) No fruits are boxes.
- (A) Only either II or IV follows
 - (B) Only either I or IV and II follow
 - (C) Only either I or III and IV follow
 - (D) None of these

141. Consider below statements

- a) All flowers are buses.
- b) Some buses are cats.
- c) All cats are tigers.

Conclusions —

- I) Some tigers are buses.
 - II) Some tigers are flowers.
 - III) Some cats are flowers.
 - IV) Some buses are tigers.
- (A) None follows
 - (B) Only III and IV follow
 - (C) Only I and IV follow
 - (D) Only II and III follow

142. Consider below statements

- a) All fans are rooms.
- b) No room is green.
- c) Some windows are green.

Conclusions —

- I) Some windows are fans.
 - II) Some windows are rooms.
 - III) Some fans are green.
 - IV) No green is fan.
- (A) Only III follows
 - (B) Only IV follows
 - (C) Only II & IV follow
 - (D) All follow

143. Consider below statements

- a) Some tablets are rains.
- b) All dogs are rains.
- c) All rains are chairs.

Conclusions —

- I) Some chairs are tablets.
 - II) All dogs are chairs.
 - III) Some tablets are dogs.
 - IV) Some tablets are chairs.
- (A) Only I, II & III follow
 - (B) Only II, III and IV follow
 - (C) Only III & IV follow
 - (D) None of these

144. Consider below statements

- a) No man is sky.
- b) No sky is road.
- c) Some men are roads.

Conclusions —

- I) No road is man.
- II) No road is sky.
- III) Some skies are men.
- IV) All roads are rnen.
- (A) Only I follows
- (B) Only I and III follow
- (C) Only II & III follow
- (D) None of these

145. Consider below statements

- a) Some candles are houses.
- b) Some houses are trains.
- c) Some trains are roads.

Conclusions —

- I) Some roads are candles.
- II) Some trains are candles.
- III) Some roads are houses.
- IV) Some candles are roads.
- (A) None follows
- (B) Only I and II follow
- (C) Only II & III follow
- (D) Only III and IV follow

146. Consider below statements

- a) No tree is fruit.
- b) All fruits are stones,
- c) All stones are rains.

Conclusions —

- I) No stone is tree.
- II) No rain is tree.
- III) Some rains are fruits.
- IV) Some rains are trees.
- (A) None follows
- (A) Only either II or IV and III follow
- (B) Only either II or III and I follow
- (C) None of these

147. Consider below statements

- a) All books are stars.

- b) Some stars are windows,
- c) All windows are hills.

Conclusions —

- I) Some windows are books.
- II) Some hills are stars.
- III) Some hills are books.
- IV) Some stars are books.
- (A) None follows
- (B) Only I & III follow
- (C) Only II & IV follow
- (D) None of these

148. Consider below statements

- a) Some cats are rats,
- b) All rats are bats,
- c) Some bats are jungles.

Conclusions —

- I) Some jungles are cats.
- II) Some bats are cats.
- III) Some jungles are rats.
- IV) No jungles is cat.
- (A) None follows
- (B) Only either I or IV and III follow
- (C) Only either I or IV and II follow
- (D) None of these

149. Consider below statements

- a) All flowers are clouds.
- b) No clouds is sky
- c) All skies are tigers.

Conclusions —

- I) Some clouds are flowers.
- II) All clouds are flowers.
- III) Some tigers are skies.
- IV) All tigers are skies.
- (A) Only II and IV follow
- (B) Only either III or IV follows
- (C) All follow
- (D) None of these

150. Consider below statements

- a) Some dogs are rats.
- b) All rats are trees.
- c) Some trees are not dogs.

Conclusions —

- I) Some trees are dogs.
 - II) All dogs are trees.
 - III) All rats are dogs.
 - IV) All trees are dogs.
- (A) Only I follows
 (B) Only II & III follow
 (C) All follow

151. Consider below statements

- a) Some boys are rains.
- b) All rains are clouds.
- c) Some clouds are cars.

Conclusions —

- I) Some clouds are boys.
 - II) Some cars are boys.
 - III) Some cars are rains.
 - IV) Some rains are boys.
- (A) None follows
 (B) Only I follows
 (C) Both I & IV follow
 (D) All follow

152. Consider below statements

- a) All bricks are flowers.
- b) Some houses are flowers.
- c) All pens are houses.

Conclusions —

- I) Some houses are bricks.
 - II) Some pens are flowers.
 - III) Some flowers are bricks.
 - IV) No pen is flower.
- (A) Only either II or IV and III follow
 (B) Only either II or IV and I follow
 (C) Only either I or II and IV follow
 (D) All follow

153. Consider below statements

- a) All lions are ducks.
- b) No duck is a horse.
- c) All horses are fruits.

Conclusions —

- I) No lion is a horse.
 - II) Some fruits are horses.
 - III) Some ducks are lions.
 - IV) Some lions are horses.
- (A) All follows
 (B) Only either I or IV and both II and III follow
 (C) Only either I or IV and II follow
 (D) None of these

154. Consider below statements

- a) Some mountains are rivers.
- b) Some rivers are roads.
- c) Some roads are windows.

Conclusions —

- I) Some windows are roads.
 - II) Some rivers are mountains.
 - III) Some roads are mountains.
 - IV) Some windows are rivers.
- (A) Only I and II follow
 (B) Only III and IV follow
 (C) Only I & IV follow
 (D) None follows

155. Consider below statements

- a) All benches are trees.
- b) All trees are flowers.
- c) All flowers are fruits.

Conclusions —

- I) All fruits are benches.
 - II) All trees are fruits.
 - III) Some fruits are flowers.
 - IV) Some flowers are benches.
- (A) Only II,III& IV follow
 (B) Only III and IV follow
 (C) Only II & III follow
 (D) None of these

156. Consider below statements

- a) Some trains are radios.
- b) Some radios are waters.
- c) All tigers are waters.

Conclusions —

- I) Some trains are tigers.
 - II) Some trains are waters.
 - III) No water is train.
 - IV) All waters are tigers.
- (A) Both II & III follow
 - (B) Only either II or III follows
 - (C) Only either I or III follows
 - (D) Only either I or IV follows

157. Consider below statements

- a) Some buses are rivers.
- b) All rivers are mountains.
- c) Some roads are mountains.

Conclusions —

- I) Some mountains are buses.
 - II) Some roads are buses.
 - III) Some roads are rivers.
 - IV) Some mountains are roads.
- l) None follows
 - (A) Only III and IV follow
 - (B) Only I & IV follow
 - (C) All follow

158. Consider below statements

- a) All lions are jungles.

- b) Some jungles are rabbits.
- c) All rabbits are elephants.

Conclusions —

- I) Some rabbits are lions.
 - II) Some elephants are jungles.
 - III) Some elephants are lions.
 - IV) Some elephants are rabbits.
- (A) Only I and II follow
 - (B) Only II and III follow
 - (C) Only III & IV follow
 - (D) None of these

159. Consider below statements

- a) All books are pens.
- b) No pens are houses.
- c) All houses are doors.

Conclusions —

- I) No books are houses.
 - II) No books are doors.
 - III) Some doors are pens.
 - IV) Some houses are books.
- (A) Only I follows
 - (B) Only II and III follow
 - (C) Only III & IV follow
 - (D) None of these

Definition 10.17 Answer key

157. B 158. D 159. A

10.10 Blood relation

Generally, in every competitive exam you may find these type problems. These types of problems test your understanding potential in given time. In your own language you may know all types of relations. In English also you should know all types of relation without any doubt. Some important relations are provided below. You should remember these relations to solve these types of problems.

Relations	Person
Mother (or) father's son	Brother
Mother's (or) Father's Daughter	Sister
Mother's brother	Maternal Uncle
Father's Brother	Paternal uncle
Mother's (or) Father's sister	Aunt
Mother's (or) Father's father	Grand father
Mother's (or) Father's mother	Grand mother
Son's wife	Daughter in law
Daughter's husband	Son in law
Husband's (or) Wife's father	Father in law
Husband's (or) Wife's mother	Mother in law
Husband's (or) Wife's brother	Brother in law
Husband's (or) Wife's sister	Sister in law
Sister's husband	Brother in law
Brother's (or) Sister's son	Nephew
Brother's (or) Sister's daughter	Niece

10.11 Type Of Problems

Blood relation problem can be of three types

1. Single Person Blood Relations
2. Mixed Blood Relations
3. Coded Blood Relations

10.11.1 Single Person Blood Relations (SPBR)

These are Relations between two people only. Break the given sentence at is/was/as and resolve it from last point to is/was/as to get easy solution for the problem.

Example 36 Pointing to a lady Ravi said, "She is the only daughter of the father of my sister's brother". How is she related to Ravi?

Solution— Break the given sentence at is from the last, in the view of Ravi.

Relations	Person
My sister's brother	brother
Father of brother	father
Daughter of father	sister

So, that becomes "she is my sister". So, answer is sister.

Example 37 John introduces Mary as the daughter of the only son of my father's wife. How is Mary related to John?

Solution— Break the given sentence at as. Resolving from the last, In the view of John.

Relations	Person
My father's wife	mother
Only son of mother	himself i.e. john
Daughter of john	daughter.

So, answer is daughter.

Note— Sometimes they might ask like how is john related to Mary. In that case answer is father. So, don't make answers without clear understanding in this type of problems.

10.11.2 Indirect SPBR

Break the given sentence at is/was/as. Resolve the sentence from last upto is/was/as. And also resolve the sentence from the first upto is /was/as. Then you will get easy solution. Observe the below examples.

Example 38 Pointing to a man in the photograph, a Woman says, "His mother's only daughter is my mother". How is man related to woman?

Solution—

Relations	Person
From the last, up to is : my mother	Woman's mother
From the first, up to is : his mother's only daughter	his sister

His sister = woman's mother. So, the answer is Mother's brother i.e. Uncle. If question asks like how is woman related to that man? Then answer is sister's daughter i.e. niece.

Example 39 Introducing Suresh, Kalpana said, "His brother's father is the only son of my grandfather". How is Kalpana related to Suresh?

Solution— Break the sentence at is.

Relations	Person
From the last up to is : The only son of my grandfather	father
From the first up to is : his brother's father	father

Suresh's father = kalpana's father. So, they are brother & sister. Like in the above type of problems From either ends if it is like

Father = Father
Mother = Mother

Uncle = Uncle
Aunt = Aunt

Then they both may be brothers / sisters / brother & sister depending upon their sex.

10.11.3 Mixed Blood Relations

Mutual blood relations depends on more than two persons mentioned. These type of problems can be solved with the help of diagrams. Follow these symbols in the diagram to avoid confusion.

- + Male candidate
- Female candidate
- ↔ Couple
- ... Same generation i.e. brother-brother (or) sister-sister (or) sister to brother
- Different generations i.e. father-son (or) mother-son

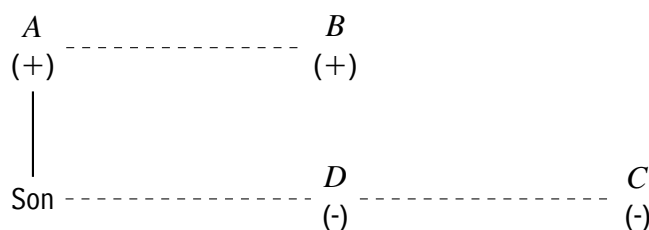
The following list of generation might be helpful to you.

First generation	Grand father, Grand mother
Second generation	Father, Mother, Uncle, Aunt.
Third generation	Self, Sister, Brother, Sister in law, Brother in law
Fourth generation	Son, Daughter, Nephew, Niece.

Its better to use the same generation in one horizontal row in the diagrams.

Example 40 A and B are brothers and C and D are sisters. A 's son is D 's brother. How is B related to C ?

Solution— By using above notations we can draw the below diagram. A, B are taken + and C, D are taken as — It seems that A, B belongs to one generation and C, D belongs to another generation. So, A, B are taken in one horizontal row and C, D are taken in other horizontal line.



It says that A is C 's father. Father's brother is uncle. So, answer is uncle.

10.11.4 Coded Blood Relations

This type of relationships is represented by codes and symbols like +, -, /, *. You have to analyze the required relation based on the given code. In this, you may need diagrammatic representation of problem to solve it. Use the same representation used in mixed blood relations. In the coding equation better to solve the code from last letter.

Example 41 If $P + Q$ means P is husband of Q , P/Q means P is the sister of Q , $P * Q$ means P is the son of Q . how is D related to A in $D * B + C/A$?

C/A	C is sister of A .
$B + C/A$	B is brother in law of A (sister's husband – brother in law.)
$D * B + C/A$	D is nephew of A (sister's husband's son means sister's son i.e. nephew)

So, answer is Nephew.

Note— You should remember all the relations to solve blood relations type of problems. Without knowing relations you can't do anything. Out of all types, Single person blood relations are important from examination's point of view.

10.12 Exercises

- Pointing to a photograph of a boy Suresh said, "He is the son of the only son of my mother." How is Suresh related to that boy?
 - Brother
 - Uncle
 - Cousin
 - Father
- If $A + B$ means A is the mother of B ; $A - B$ means A is the brother of B ; $A \% B$ means A is the father of B and $A \times B$ means A is the sister of B , which of the following shows that P is the maternal uncle of Q ?
 - $Q - N + M \times P$
 - $P + S \times N - Q$
 - $P - M + N \times Q$
 - $Q - S \% P$
- If A is the brother of B ; B is the sister of C ; and C is the father of D , how D is related to A ?
 - Brother
 - Sister
 - Nephew
 - Cannot be determined
- If $A + B$ means A is the brother of B ; $A - B$ means A is the sister of B and $A \times B$ means A is the father of B . Which of the following means that C is the son of M ?
 - $M - N \times C + F$
 - $F - C + N \times M$
 - $N + M - F \times C$
 - $M \times N - C + F$
- Introducing a boy, a girl said, "He is the son of the daughter of the father of my uncle." How is the boy related to the girl?
 - Brother
 - Nephew
 - Uncle
 - Son-in-law
- Pointing to a photograph Lata says, "He is the son of the only son of my grandfather." How is the man in the photograph related to Lata?
 - Brother
 - Uncle
 - Cousin
 - Data is inadequate
- If $A + B$ means A is the brother of B ; $A \times B$ means A is the son of B ; and $A \% B$ means B is the daughter of A then which of the following means M is the maternal uncle of N ?
 - $M + O \times N$
 - $M \% O \times N + P$
 - $M + O \% N$
 - None of these
- If D is the brother of B , how B is related to C ? To answer this question which of the statements is/are necessary?
 - The son of D is the grandson of C
 - B is the sister of D
 - Only 1
 - Only 2
 - Either 1 or 2
 - 1 and 2 both are required
- If $A + B$ means A is the father of B ; $A - B$ means A is the brother of B ; $A \% B$ means A is the wife of B and $A \times B$ means A is the mother of B , which of the following shows that M is the maternal grandmother of T ?
 - $M \times N \% S + T$
 - $M \times N - S \% T$
 - $M \times S - N \% T$
 - $M \times N \times S \% T$

- 10.** Pointing to a photograph. Bajpai said, "He is the son of the only daughter of the father of my brother." How Bajpai is related to the man in the photograph?
- (A) Nephew
(B) Brother
(C) Father
(D) Maternal Uncle
- 11.** Deepak said to Nitin, "That boy playing with the football is the younger of the two brothers of the daughter of my father's wife." How is the boy playing football related to Deepak?
- (A) Son
(B) Brother
(C) Cousin
(D) Brother-in-law
- 12.** Pointing a photograph X said to his friend Y , "She is the only daughter of the father of my mother." How X is related to the person of photograph?
- (A) Daughter
(B) Son
(C) Nephew
(D) Cannot be decided
- 13.** Veena who is the sister-in-law of Ashok, is the daughter-in-law of Kalyani. Dheeraj is the father of Sudeep who is the only brother of Ashok. How Kalyani is related to Ashok?
- (A) Mother-in-law
(B) Aunt
(C) Wife
(D) None of these
- 14.** If $A + B$ means A is the sister of B ; $A \times B$ means A is the wife of B , $A \% B$ means A is the father of B and $A - B$ means A is the brother of B . Which of the following means T is the daughter of P ?
- (A) $P \times Q \% R + S - T$
(B) $P \times Q \% R - T + S$
(C) $P \times Q \% R + T - S$
(D) $P \times Q \% R + S + T$
- 15.** Pointing to a woman, Abhijit said, "Her granddaughter is the only daughter of my brother." How is the woman related to Abhijit?
- (A) Sister
(B) Grandmother
(C) Mother-in-law
(D) Mother
- 16.** Amit said —"This girl is the wife of the grandson of my mother". How is Amit related to the girl?
- (A) Brother
(B) Grandfather
(C) Husband
(D) Father-in-law
- 17.** A and B are children of D Who is the father of A ? To answer this question which of the statements (1) and (2) is necessary?
- C is the brother of A and the son of E .
 - F is the mother B
- (A) Only (1)
(B) Only (2)
(C) Either (1) or (2)
(D) (1) and (2) both
- 18.** Pointing towards a man, a woman said, "His mother is the only daughter of my mother." How is the woman related to the man?
- (A) Mother
(B) Grandmother
(C) Sister
(D) Daughter
- 19.** If $P\$Q$ means P is the brother of Q ; $P\#Q$ means P is the mother of Q ; $P * Q$ means P is the daughter of Q in $A\#B\$C * D$, who is the father?
- (A) D
(B) B
(C) C
(D) Data is inadequate

- 20.** Introducing Sonia, Aamir says, "She is the wife of only nephew of only brother of my mother." How Sonia is related to Aamir?
 (A) Wife
 (B) Sister
 (C) Sister-in-law
 (D) Data is inadequate
- 21.** If $A + B$ means A is the brother of B ; $A \% B$ means A is the father of B and $A \times B$ means A is the sister of B . Which of the following means M is the uncle of P ?
 (A) $M \% N \times P$
 (B) $N \times P \% M$
 (C) $M + S \% R \% P$
 (D) $M + K \% T \times P$
- 22.** Pointing to Varman, Madhav said, "I am the only son of one of the sons of his father." How is Varman related to Madhav?
 (A) Nephew
 (B) Uncle
 (C) Father or Uncle
 (D) Father
- 23.** Introducing a woman, Shashank said, "She is the mother of the only daughter of my son." How that woman is related to Shashank?
 (A) Daughter
 (B) Sister-in-law
 (C) Wife
 (D) Daughter-in-law
- 24.** If $A + B$ means B is the brother of A ; $A \times B$ means B is the husband of A ; $A - B$ means A is the mother of B and $A \% B$ means A is the father of B , which of the following relations shows that Q is the grandmother of T ?
 (A) $Q - P + R \% T$
 (B) $P \times Q \% R - T$
 (C) $P \times Q \% R + T$
 (D) $P + Q \% R - T$
- 25.** Consider the following
 1. $A3P$ means A is the mother of P
 2. $A4P$ means A is the brother of P
 3. $A9P$ means A is the husband of P
 4. $A5P$ means A is the daughter of P
 Which of the following means that K is the mother-in-law of M ?
 (A) $M9N3K4J$
 (B) $M9N5K3J$
 (C) $K5J9M3N$
 (D) $K3J9N4M$
- 26.** Pointing to a photograph Anjali said, "He is the son of the only son of my grandfather." How is the man in the photograph related to Anjali?
 (A) Brother
 (B) Uncle
 (C) Son
 (D) Data is inadequate
- 27.** Pointing to a person, Deepak said, "His only brother is the father of my daughter's father". How is the person related to Deepak?
 (A) Father
 (B) Grandfather
 (C) Uncle
 (D) Brother-in-law
- 28.** P is the mother of K ; K is the sister of D ; D is the father of J . How is P related to J ?
 (A) Mother
 (B) Grandmother
 (C) Aunt
 (D) Data inadequate
- 29.** If $P\$Q$ means P is the father of Q ; $P\#Q$ means P is the mother of Q and $P * Q$ means P is the sister of Q , then $N\#L\$P * Q$ shows which of the relation of Q to N ?
 (A) Grand son
 (B) Grand daughter
 (C) Nephew
 (D) Data is inadequate

- 30.** If $A\$B$ means A is the brother of B ; $A@B$ means A is the wife of B ; $A\#B$ means A is the daughter of B and $A*B$ means A is the father of B , which of the following indicates that U is the father-in-law of P ?
- (A) $P@Q\$T\#U*W$
 (B) $P@W\$Q*T\#U$
 (C) $P@Q\$W*T\#U$
 (D) $P@Q\$T\#W*U$
- 31.** Introducing a man, a woman said, "He is the only son of the mother of my mother." How is the woman related to the man?
- (A) Mother
 (B) Sister
 (C) Niece
 (D) Maternal aunt
- 32.** Pointing to Gopi, Nalni says, "I am the daughter of the only son of his grandfather." How Nalni is related to Gopi?
- (A) Niece
 (B) Daughter
 (C) Sister
 (D) Cannot be determined
- 33.** A 's son B is married with C whose sister D is married to E the brother of B . How D is related to A ?
- (A) Sister
 (B) Daughter's-in-law
 (C) Sister-in-law
 (D) Cousin
- 34.** Pointing to a lady a person said, "The son of her only brother is the brother of my wife." How is the lady related to the person?
- (A) Maternal aunt
 (B) Grandmother
 (C) Sister of father-in-law
 (D) None of these
- 35.** Consider the following
- $B5D$ means B is the father of D
 - $B9D$ means B is the sister of D
 - $B4D$ means B is the brother of D
 - $B3D$ means B is the wife of D
- Which of the following means F is the mother of K ?
- (A) $F3M5K$
 (B) $F5M3K$
 (C) $F9M4N3K$
 (D) $F3M5N3K$
- 36.** $A\$B$ means A is the father of B ; $A\#B$ means A is the sister of B ; $A*B$ means A is the daughter of B and $A@B$ means A is the brother of B . Which of the following indicates that M is the wife of Q ?
- (A) $Q\$R\#T@M$
 (B) $Q\$R@T\#M$
 (C) $Q\$R*T\#M$
 (D) $Q\$R@T*M$
- 37.** If $A\$B$ means A is the brother of B ; $B*C$ means B is the son of C ; $C@D$ means C is the wife of D and $A\#D$ means A is the son of D , how C is related to A ?
- (A) Maternal grandmother
 (B) Maternal aunt
 (C) Aunt
 (D) Mother
- 38.** Pointing to a girl Sandeep said, "She is the daughter of the only sister of my father." How is sandeep related to the girl?
- (A) Uncle
 (B) Cousin
 (C) Father
 (D) Grandfather
- 39.** Pointing to a boy in the photograph Reena said, "He is the only son of the only child of my grandfather." How Reena is related to that boy?
- (A) Mother
 (B) Sister
 (C) Aunt
 (D) Cannot be determined

40. Consider the following

1. $A * B$ means A is the sister of B
2. $A \$ B$ means B is the mother of A
3. $A + B$ means A is the brother of B
4. $A = B$ means B is the father of A

Which of the following means M is the maternal uncle of N ?

- (A) $M = P + Q * N$
 (B) $N + P = Q * M$
 (C) $N * P \$ Q * M$
 (D) None of these
41. If $M \times N$ means M is the daughter of N ; $M + N$ means M is the father of N ; $M \% N$ means M is the mother of N and $M - N$ means M is the brother of N then $P \% Q + R - T \times K$ indicates which relation of P to K ?
- (A) Daughter-in-law
 (B) Sister-in-law
 (C) Aunt
 (D) None of these
42. If $P + Q$ means P is the brother of Q ; $P \times Q$ means P is the father of Q and $P - Q$ means P is the sister of Q , which of the following relations shows that I is the niece of K ?
- (A) $K + Y + Z - I$
 (B) $K + Y \times I - Z$
 (C) $Z - I \times Y + K$
 (D) $K \times Y + I - Z$
43. Pointing towards a girl, Abhisek says, "This girl is the daughter of only a child of my father." What is the relation of Abhisek's wife to that girl?
- (A) Daughter
 (B) Mother
 (C) Aunt
 (D) Sister
44. If $A \$ B$ means B is the father of A ; $A \# B$ means B is the mother of A ; $A * B$ means B is the sister of A and $A @ B$ means B is the husband of A , which of the following indicates that N is the grandmother of P ?
- (A) $P * Q \# M \$ N$
 (B) $P @ Q \$ M \# N$
 (C) $P \# Q \$ N * M$
 (D) None of these
45. Anupam said to a lady sitting in a car, "The only daughter of the brother of my wife is the sister-in-law of the brother of your sister." How the husband of the lady is related to Anupam?
- (A) Maternal uncle
 (B) Uncle
 (C) Father
 (D) Son-in-law
46. If $P + Q$ means P is the brother of Q ; $P \times Q$ means P is the wife of Q and $P \% Q$ means P is the daughter of Q then which of the following means D is the uncle of A ?
- (A) $A \% B \times C + D$
 (B) $A \times B + C \% D$
 (C) $A + C \% B \times D$
 (D) None of these
47. A is the son of C ; C and Q are sisters; Z is the mother of Q and P is the son of Z . Which of the following statements is true?
- (A) P and A are cousins
 (B) P is the maternal uncle of A
 (C) Q is the maternal grandfather of A
 (D) C and P are sisters
48. M is the father of N who is the son of V . In order to know the relation of M to P , which of the statement/statements is/are necessary?
1. P is the brother of V .
 2. The daughter of N is the granddaughter of V .

- (A) Only (1)
 (B) Only (2)
 (C) Either (1) or (2)
 (D) (1) and (2) both
49. If $X + Y$ means X is the daughter of Y ; $X - Y$ means X is the brother of Y ; $X \% Y$ means X is the father of Y and $X \times Y$ means X is the sister of Y . Which of the following means I is the niece of J ?
- (A) $J - N \% C \times I$
 (B) $I \times C - N \% J$
 (C) $J + M \times C \% I$
 (D) $I \times C + N - J$

Definition 10.18 Answer keys

49. D

10.13 Previous year solved

1. If January 1st, 2007 is Monday, what was the day on 1st January 1995? (JUNE-2008)
- (A) Sunday (C) Friday
 (B) Monday (D) Saturday
2. Insert the missing number: (JUNE-2006)
- $16/32, 15/33, 17/31, 14/34, ?$
- (A) $19/35$ (C) $18/35$
 (B) $19/30$ (D) $18/30$
3. Monday falls on 20th March 1995. What was the day on 3rd November 1994? (JUNE-2006)
- (A) Thursday (C) Tuesday
 (B) Sunday (D) Saturday
4. The average of four consecutive even numbers is 27. The largest of these numbers is: (JUNE-2006)
- (A) 36 (B) 32 (C) 30 (D) 28
5. In a certain code, FHQK means GIRL. How will WOMEN be written in the same code? (JUNE-2006)
- (A) VNLDM (C) XPNFO
 (B) FHQKN (D) VLNDM
6. At what time between 4 and 5 O'clock will the hands of a watch point in opposite directions? (JUNE-2006)
- (A) 45 min. past 4
 (B) 40 min. past 4
 (C) $50 \frac{4}{11}$ min. past 4
 (D) $54 \frac{6}{11}$ min. past 4
7. In the sequence of numbers 8, 24, 12, X, 18, 54 the missing number X is: (DECEMBER-2006)
- (A) 26 (B) 24 (C) 36 (D) 32
8. If A stands for 5, B for 6, C for 7, D for 8 and so on, then the following numbers stand for 17, 19, 20, 9 and 8: (DECEMBER-2006)
- (A) PLANE (C) MOTOR
 (B) MOPED (D) TONGA
9. The letters in the first set have certain relationship. On the basis of this relationship, what is the right choice for the second set? $AST : BRU :: NQV : ?$ (DECEMBER-2006).
- (A) ORW (C) MRW
 (B) MPU (D) OPW

- 10.** In a certain code, PAN is written as 31 and PAR as 35. In this code PAT is written as: (DECEMBER-2006, DECEMBER-2010)
(A) 30 (B) 37 (C) 38 (D) 39
- 11.** The sides of a triangle are in the ratio of $1/2 : 1/3 : 1/4$. If its perimeter is 52 cm, the length of the smallest side is: (DECEMBER-2006)
(A) 9 cm (B) 10 cm (C) 11 cm (D) 12 cm
- 12.** Which is the number that comes next in the sequence? (JUNE-2007)
9, 8, 8, 8, 7, 8, 6,
(A) 5 (B) 6 (C) 8 (D) 4
- 13.** If in a certain language PUNCTUAL is coded as 1 6 5 9 8 6 2 3, how would ACTUPULN be coded? (JUNE-2007)
(A) 8 3 4 5 3 6
(B) 2 9 8 6 1 6 3 5
(C) 8 3 4 5 3 0
(D) 8 3 4 5 3 9
- 14.** The question to be answered by factorial analysis of the quantitative data does not explain one of the following: (JUNE-2007)
(A) Is 'X' related to 'Y'?
(B) How is 'X' related to 'Y'?
(C) How does 'X' affect the dependent variable 'Y' at different levels of another independent variable 'K' or 'M'?
(D) How is 'X' by 'K' related to 'M'?
- 15.** January 12, 1980 was Saturday, what day was January 12, 1979: (JUNE-2007)
(A) Saturday (B) Friday (C) Sunday (D) Thursday
- 16.** How many Mondays are there in a particular month of a particular year, if the month ends on Wednesday? (JUNE-2007)
(A) 5
(B) 4
(C) 3
(D) None of the above
- 17.** Out of four numbers, the average of the first three numbers is thrice the fourth number. If the average of the four numbers is 5, the fourth number is: (JUNE-2007)
(A) 4.5 (B) 5 (C) 2 (D) 4
- 18.** Circle graphs are used to show: (JUNE-2007)
(A) How various sections share in the whole?
(B) How various parts are related to the whole?
(C) How one whole is related to other wholes
(D) How one part is related to other parts?
- 19.** "E" denotes: (JUNE-2007)
(A) Universal Negative Proposition
(B) Particular Affirmative Proposition
(C) Universal Affirmative Proposition
(D) Particular Negative Proposition
- 20.** 'A' is the father of 'C, and 'D' is the son of 'B'. 'E' is the brother of 'A'. If 'C' is the sister of 'D', how is 'B' related to 'E'? (JUNE-2007)
(A) daughter
(B) husband
(C) sister-in-law
(D) brother-in-law
- 21.** Find out the number which should come at the place of question mark which will complete the following series: 5, 4, 9, 17, 35, ? = 139 (DECEMBER-2007)
(A) 149 (B) 79 (C) 49 (D) 69

- 22.** Which number is missing in the following series? 2, 5, 10, 17, 26, 37, 50, ? (DECEMBER-2007)
- (A) 63 (B) 65 (C) 67 (D) 69
- 23.** Insert the missing number: 4 : 17 : : 7 : ? (DECEMBER-2007)
- (A) 48 (B) 49 (C) 50 (D) 51
- 24.** Choose the odd word: (DECEMBER-2007)
- (A) Nun (B) Knight (C) Monk (D) Priest
- 25.** Choose the number which is different from others in the group: (DECEMBER-2007)
- (A) 49 (B) 63 (C) 77 (D) 81
- 26.** Insert the missing number: 36/62, 39/63, 43/61, 48/64, ? (DECEMBER-2007)
- (A) 51/65 (B) 56/60 (C) 54/65 (D) 33/60
- 27.** At what time between 3 and 4 O'clock will the hands of a watch point in opposite directions? (DECEMBER-2007)
- (A) 40 minutes past three
(B) 50 minutes past three
(C) 45 minutes past three
(D) 55 minutes past three
- 28.** Mary has three children. What is the probability that none of the three children is a boy? (DECEMBER-2007)
- (A) 1/2 (B) 1/3 (C) 3/4 (D) 1/8
- 29.** If the radius of a circle is increased by 50 per cent. Its area is increased by: (DECEMBER-2007)
- (A) 125 % (B) 100 % (C) 75 % (D) 50 %
- 30.** What will be the next letter in the following series? DCXW, FEVU, HGTS (JUNE-2008)
- (A) AKPO (B) JBYZ (C) JIRQ (D) LMRS
- 31.** AGARTALA is written in code as 14168171, the code for AGRA is: (JUNE-2008)
- (A) 1641 (B) 1416 (C) 1441 (D) 1461
- 32.** Insert the missing number in the following series: 4 16 8 64 ? 256 (JUNE-2008)
- (A) 16 (B) 24 (C) 32 (D) 20
- 33.** If an article is sold for Rs. 178 at a loss of 11%; What would be its selling price in order to earn a profit of 11%? (JUNE-2008)
- (A) Rs.222.50 (B) Rs. 267 (C) Rs. 222 (D) Rs. 220
- 34.** Insert the missing number in the following: 2/3, 4/7, ? , 11/21, 16/31 (DECEMBER-2008)
- (A) 10/8 (B) 6/10 (C) 5/10 (D) 7/13
- 35.** In a certain code, GAMESMAN is written as AGMEMSAN. How would DISCLOSE be written in that code? (DECEMBER-2008)
- (A) IDSCOLSE (B) IDC SOLES (C) IDSCOLES (D) IDSCLOSE

- 36.** The letters in the first set have a certain relationship. On the basis of this relationship mark the right choice for the second set: AST : BRU :: NQV : ? (DECEMBER-2008)
- (A) ORW (C) MRW
(B) MPU (D) OPW
- 37.** On what dates of April 1994 did SUNDAY fall? (DECEMBER-2008)
- (A) 2,9,16,23,30
(B) 3,10,17,24
(C) 4,11,18,2
(D) 1,8,15,22,29
- 38.** Find out the wrong number in the sequence: 125, 127, 130, 135, 142, 153, 165 (DECEMBER-2008, JUNE-2011)
- (A) 130 (B) 142 (C) 153 (D) 165
- 39.** There are five books A, B, C, D and E. The book C lies above D, the book E is below A and B is below E. Which is at the bottom? (DECEMBER-2008)
- (A) E (B) B (C) A (D) C

Definition 10.19 Answer key (For wrong answer report to me)

37. B 38. D 39. B

11. Miscellenous questions

- Which of the following can generate Tsunami?
(A) Earthquake
(B) Nuclear bomb testing
(C) Meteorite impact
(D) All of these
- Which of the following media can be used effectively in large group communications?
(A) Television
(B) Overhead Projector
(C) Video
(D) Computer
- If EFGHIJK is coded as VUTSRQP then LIMIT can be coded as :
(A) KNRNC
(B) ORNRG
(C) JKOKG
(D) RSTSG
- Which of the following can cause explosive volcanic eruption?
(A) Low viscosity of magma
(B) High viscosity of magma
(C) High water content in ground
(D) None of these
- Which of the following methods of teaching encourages the use of maximum senses?
(A) Problem-solving method
(B) Laboratory method
(C) Self-study method
(D) Team teaching method
- Which one of the following Articles of the Constitution of India safeguards the rights of Minorities to establish and run educational institutions of their own liking?
(A) Article 19
(B) Article 29
(C) Article 30
(D) Article 31
- Emotional development is as much affected by maturation and learning as sensory processes, muscular growth and intellectual functions. Parlous experiment showed emotional responses could be learned through
(A) conditioning
(B) imitation
(C) knowledge and skills.
(D) None of these

1. D 2. B 3. B 4. B 5. B 6. C 7. A

8. Which of the following statement is correct?
- (A) In research, objectives can be worded in question form.
 (B) In research, objectives can be worded in statement form.
 (C) Objectives are to be stated in Chapter I of the Thesis
 (D) All of the above
9. Before starting instruction a teacher should
- (A) know the existing knowledge of his students and their background knowledge.
 (B) Be aware of the environmental variables acting on the mind of the pupil.
 (C) Be competent enough to arouse the curiosity of pupil.
 (D) All of these
10. The maximum emission of pollutants from fuel sources in India is caused by :
- (A) Coal
 (B) Firewood
 (C) Refuse burning
 (D) Vegetable waste product
11. Which one of the following is 28th state of India
- (A) Uttarakhand
 (B) Jharkhand
 (C) Chhattisgarh
 (D) None of these
12. Which of the following statement is correct?
- (A) objectives should be pin-pointed
 (B) objectives can be written in statement or question form
 (C) another word for problem is variable
 (D) all the above
13. The difference between experimental research and historical research in the process of
- (A) the formulation of the hypothesis
 (B) the testing of hypothesis
 (C) replication
 (D) All of these
14. The effective means in education communication is
- (A) Black Board Writing
 (B) Audio-Visual means
 (C) Audio means
 (D) Visual means
15. The research is always
- (A) verifying the old knowledge
 (B) exploring new knowledge
 (C) filling the gap between knowledge
 (D) All of these
16. for providing evaluative feedback to students, the teacher should
- (A) Use correction, not criticism, in respect to inappropriate responses
 (B) Provide immediate feedback
 (C) Do not provide nonconstructive comments for evaluating activities
 (D) All of these
17. The members of a group act, feel and think together, in a way which is different from the normal acting, feeling and thinking of individual, who come together to form the group. It is known as
- (A) memsis
 (B) Co-operation
 (C) Understanding
 (D) Group working
18. which of the following is a good method of teaching?
- (A) Lecture and dictation
 (B) Seminar and project
 (C) Seminar and dictation
 (D) Dictation and Assignment

19. which of the following is the most important signal factor in underlying the success of beginning a teacher?
- Scholarship
 - Communicative ability
 - Personality and its ability to relate to the class and to the pupils
 - Organisational ability
20. which one of the following is least required during the preparation of lecture?
- Clear introduction and summary.
 - Time and control unit
 - Examples for better explanation and understanding.
 - Factual materials in indirect way.
21. Effective Communication takes place when
- source is attractive and authoritarian
 - message design incorporates audience
 - modern communication technologies are used
 - receivers are passive recipient
22. Three words are given in this question, which have something in common among themselves. Out of the four given alternatives, choose the most appropriate, choose the most appropriate descriptive about these three words. Ovary : Uterus : Cervix
- They are excretory organs
 - They are reproductive organs
 - They are endocrine glands
 - They are organs for fertilization in plants
23. Memory protection is normally done by
- the operating system
 - the antivirus
 - the processor and the associated hardware
 - the user programme
24. In every field research pursuits promote systematic and gradual advancement of knowledge but discoveries are rare because
- research is a continuous critical investigation
 - it is not common to be able to think beyond a grooved channel
 - sustained experimental work needed for discoveries is not easily forthcoming
 - most people lack depth of knowledge needed for it
25. Students should prefer those teachers who
- dictate notes in the class.
 - give important questions before examination.
 - can clear their difficulties regarding subject-matter.
 - are themselves disciplined.
26. What makes people to undertake research?
- Desire to face the challenge in solving the unsolved problems.
 - Desire to get a research degree along with it consequential benefits.
 - Desire to get intellectual joy of doing some creative work.
 - All of these
27. Which of the following is the most important characteristic of Open Book Examination system?
- Students become serious
 - It improves attendance in the classroom.
 - It reduces examination anxiety amongst students.
 - It compels students to think.

28. A satisfactory quantitative method should not possess one of the following qualities :
- (A) Appropriateness
 - (B) Measurability
 - (C) Comparability
 - (D) Flexibility
29. Which of the following is the appropriate definition of Information Technology?
- (A) Information Technology refers to the use of hardware and software for processing information.
 - (B) Information Technology refers to the use of hardware and software for distribution of useful information
 - (C) Information Technology refers to the use of hardware and software for storage, retrieval, processing and distributing information of many kinds.
 - (D) Information Technology refers to the use of principles of Physical sciences and Social sciences for processing of information of many kinds.
30. ICT stands for :
- (A) International Communication Technology
 - (B) Computer is capable of analysing both quantitative and qualitative data.
 - (C) Information and Communication Technology
 - (D) Inter connected Terminals
31. Which of the following dams is not on Narmada river?
- (A) Indira Sagar Project
 - (B) Jobat Project
 - (C) Maheshwar Hydel Power Project
 - (D) Koyna Power Project
32. Which of the following is a secondary or tertiary effect of volcanic eruption?
- (A) Hot ash flow (pyro-elastic flow)
 - (B) Mudflow (Lahars)
 - (C) Volcanic land slide (debris flow and debris avalanches)
 - (D) Famine and Disease
33. The most powerful upper chamber in the world is :
- (A) American senate
 - (B) British House of Lords
 - (C) Rajya Sabha of Indian Republic
 - (D) None of these
34. Which of the elements is essential for animals but not in plants?
- (A) Potassium
 - (B) Iodine
 - (C) Calcium
 - (D) Phosphorus
35. If a person replies like " I see " or 'mm-hmm' then it is known as
- (A) positive feedback
 - (B) negative feedback
 - (C) ambiguous feedback
 - (D) None of these
36. According to Berlo, Communication has how many elements?
- (A) 4
 - (B) 3
 - (C) 6
 - (D) 5
37. Team teaching has the potential to develop :
- (A) Competitive spirit
 - (B) Cooperation
 - (C) The habit of supplementing the teaching of each other
 - (D) Highlighting the gaps in each other's teaching
38. The most common cause of nervous instability amongst teacher is
- (A) worry

- (B) fatigue
(C) quarrelsome behavior
(D) all of the above
- 39.** A bag contains an equal number of one rupee, 50 paise and 25 paise coins. If the total amount in the bag is 35, how many coins of each type are there?
(A) 15
(B) 18
(C) 20
(D) 25
- 40.** Communication word is derived from a verb of which language?
(A) Latin
(B) French
(C) German
(D) Italian
- 41.** Which of the following Satellites helps to telecast T.V. Network Programmes all over the country?
(A) Apple
(B) Aryabhatta
(C) Rohini
(D) INSAT – IB
- 42.** Dhunaram Thermal Power Project is situated in
(A) Maharashtra
(B) Jharkhand
(C) Gujarat
(D) Andhra Pradesh
- 43.** Which of the following statement is NOT correct?
(A) Computer is capable of processing only digital signal.
(B) Computer is capable of analysing both quantitative and qualitative data.
(C) Appropriate software is required for processing the data
(D) Computer is capable of processing digital as well as analog signals
- 44.** In any discipline, theories and observables (related experimental results)
(A) should complement each other
(B) often more than not should contradict each other
(C) need not have anything to do with each other
(D) should compensate each other
- 45.** A research problem is not feasible only when
(A) it is researchable
(B) it is new and adds something to knowledge
(C) it consists of independent and dependent variables
(D) it has utility and relevance
- 46.** Which of the following is not a transmitting barrier?
(A) Physical distraction
(B) Emotional interference
(C) Conflicting messages
(D) Channel barrier
- 47.** What will you do as a teacher if the students do not attend your class?
(A) Blame the students for their absence
(B) Keep quiet considering the present attitude of students as the change of culture
(C) Think of using some interesting methods of teaching
(D) Know the reason and try to remove them
- 48.** If the sample drawn doesn't specify any condition about the parameter of the population. It is called
(A) selected statistics
(B) distribution free statistics
(C) census
(D) None of these

49. Which of the following standing committee of Parliament has no Member of Parliament from Rajya Sabha?
- (A) Hawaii Island
(B) Greenland
(C) Kamchatka
(D) None of these
50. The Government of India introduced Bharat Ratna and Padmashree awards under
- (A) Article 18 of the constitution
(B) Article 20 of the constitution
(C) Article 17 of the constitution
(D) Article 16 of the constitution
51. Which opinion is not correct?
- (A) Education is a subject of concurrent list of VII schedule of Constitution of India
(B) University Grants commission is a statutory body
(C) Patent, inventions, design, copyright and trademarks are the subject of concurrent list
(D) Indian Council of Social Science Research is a statutory body related to research in social sciences
52. Election of Rural and Urban local bodies are conducted and ultimately supervised by
- (A) Election Commission of India
(B) State Election Commission
(C) District Collector and District Magistrate
(D) Concerned Returning Officer
53. Which of the following statement is correct?
- (A) Communicator should have fine senses
(B) Communicator should have tolerance power
(C) Communicator should be soft spoken
(D) Communicator should have good personality
54. Blacksmith is related to Anvil in the same way as surgeon is related to
- (A) scalpel
(B) knife
(C) pen
(D) stethoscope
55. The Directive Principles of State Policy seek
- (A) to establish the supremacy of the constitution
(B) to curb the authoritarian rule
(C) to strengthen judiciary
(D) to make the constitution an instrument of social change
56. Boot is —
- (A) start-up of a computer
(B) loading software in a computer
(C) managing memory of computer
(D) all of above
57. Yahoo messenger is an
- (A) application
(B) on line transaction
(C) virtual terminal
(D) all of above
58. Encoding is
- (A) the formulation of messages in the communicator's mind
(B) the formulation messages in the receiver's mind
(C) coding of whole communication process
(D) None of these
59. Doctor :Medicine ::Teacher
- (A) Class
(B) Lecture
(C) Education
(D) Students

- 60.** A dogma is different from a theory in respect of any one of the following?
 (A) Experimental verification
 (B) Conviction
 (C) Assumption
 (D) Acceptability
- 61.** Teachers who are enthusiastic in the classroom teaching
 (A) often lack proficiency in the subjects which stays hidden under their enthusiasm
 (B) simply dramatize to hold the student's attention.
 (C) involve their students in the teaching learning process
 (D) All of these
- 62.** The most appropriate meaning of learning is
 (A) inculcation of knowledge
 (B) modification of behaviour
 (C) personal adjustment
 (D) acquisition of skills
- 63.** The "Report on Currency and Finance" for each of the financial year in India is published by :
 (A) Reserve Bank of India
 (B) Ministry of Finance
 (C) Planning Commission
 (D) Central Statistical Organisation
- 64.** Generalized conclusion on the basis of a sample is technically known as :
 (A) statistical inference of external validity of the research
 (B) data analysis and interpretation
 (C) parameter inference
 (D) All of the above
- 65.** All are the examples of qualitative variables except :
 (A) religion and castes
 (B) sex
 (C) observation
 (D) interest of the subject
- 66.** Complete loss of memory is termed
 (A) Amnesia
 (B) Coma
 (C) Trauma
 (D) Paranesia
- 67.** Which of the following is not an input device ?
 (A) Joystick
 (B) Scanner
 (C) VDU
 (D) Keyboard
- 68.** In the study of man environment interaction, the statement of Miss Semple that "the humans are solely the product of their environment", is :
 (A) An opinion
 (B) A prejudice
 (C) A fact
 (D) A widely accepted phenomenon
- 69.** An effective communication does not require
 (A) change in speech pattern
 (B) appropriate gesture
 (C) mastery of content
 (D) handsome personality
- 70.** DTH (Direct to Home)
 (A) TV communication
 (B) Cinema
 (C) Radio
 (D) None of these
- 71.** ELEGANCE is related to VULGARITY in the same way as GRACEFUL is related to
 (A) AWKWARD
 (B) COMELY
 (C) ASPERITY
 (D) DIRTY

- 72.** In a certain code language, 419 means fruit is sweet 248 means very sweet voice and 637 means eat fruit daily then 9 stands for
 (A) eat
 (B) is
 (C) daily
 (D) fruit
- 73.** The retained profit in 2001-02 as compared to 2000-01 was
 (A) higher by 2.5
 (B) higher by 1.5
 (C) lower by 2.5
 (D) lower by 1.5
- 74.** Digital Subscriber Line Access Multiplexer (DSLAM) is used for
 (A) high speed data transfer
 (B) developing efficient digital network over existing one
 (C) accessing remote computer
 (D) synchronising protocols of different network
- 75.** In the interior of earth
 (A) the temperature falls with increasing depth
 (B) the pressure falls with increasing depth
 (C) the temperature rises with increasing depth
 (D) pressure remains constant with varying depth
- 76.** Montreal protocol is related to
 (A) Ozone depletion
 (B) Nuclear weapons
 (C) Sea-bed
 (D) Landmines
- 77.** In case of absence of both the President and the Vice President who acts as the president of the country?
 (A) Speaker of Lok Sabha
 (B) The Prime Minister
 (C) Chief Justice of Supreme Court
 (D) Minister of Home Affairs
- 78.** Corel Draw is a popular
 (A) Illustration programme
 (B) Programming language
 (C) Text programme
 (D) None of the above
- 79.** If the population growth follows a logistic curve, the maximum sustainable yield :
 (A) is equal to half the carrying capacity/
 (B) is equal to the carrying capacity.
 (C) depends on growth rates.
 (D) depends on the initial population.
- 80.** A teacher can help adolescent to overcome his special problems, and help him to adjust to the environment. Which of the following attitude, he should not made?
 (A) He Should Impart Right Information About Sex.
 (B) He Should Redirect The Energies Of The Adolescent To Fruitful Channels Through Sports And Other Constructive Activities.
 (C) He Should Have Unsympathetic Attitude Towards Others.
 (D) He Should Have Right Information About Sex.
- 81.** The process of learning include which of the following
 (A) Synthesis And Organisation Of The Old And New Experiences, Resulting In A Novel Pattern.
 (B) It Includes All Activities Which Leave Permanent Effect On The Individual.
 (C) In Its Simplest Form, Learning Means Acquisition, Retention And Modification Of Experience.
 (D) All Of These

- 82.** A new comer teacher who is maltreated in his class will deal with the students by
- Applying Punitive Measure
 - Improving His Qualities And Expressing It Before Them In A Good Way.
 - Changing His Class After Consultation
 - Giving Them A Threat Of Expulsion.
- 83.** A teacher can establish rapport with his pupil by
- Becoming A Figure Of Authority
 - Impressing Them With Knowledge And Skill
 - Playing The Role Of A Guide With Desire To Help Them
 - Becoming A Friend To The Pupils
- 84.** If majority of students in your class is weak you should
- Not Care About Intelligent Students
 - Keep Your Sped Of Teaching Fast So That Students Comprehension Level May Increase
 - Keep Your Teaching Slow Which Can Also Be Helpful To Bright Students.
 - Keep Your Teaching Slow Along With Some Extra Guidance To Bright People
- 85.** If students do not understand what is taught in the class the teacher should feel
- terribly bored
 - to explain it in different way
 - that he is wasting time
 - pity for the students
- 86.** Which of the following is a purposive sampling?
- Random probability sampling
 - Stratified random sampling
 - Cluster sampling
 - Deliberate sampling
- 87.** The first question that a researcher interested in the applicable for statistical techniques to his problem has to ask
- whether the data could be quantified
 - whether appropriate statistical techniques are available
 - whether analysis of data would be possible
 - whether worthwhile inferences could be drawn
- 88.** Which of the following is not a step of research?
- Selecting a topic
 - Framing research questions
 - Surveying the research topic
 - None of these
- 89.** Which of the following provides more freedoms to the communication to interact?
- Small group discussion
 - Using film projectors
 - Viewing countrywide classroom
 - Lecture by experts
- 90.** When was the All India Radio (AIR) was adopted?
- June 8th 1936
 - July 17th 1952
 - June 17th 1935
 - July 8th 1949
- 91.** Radio waves of constant amplitude can be generated with
- filter
 - rectified
 - FET
 - oscillator
- 92.** File
- is a collection of related records
 - is a automated processing system
 - TDM
 - None of these

- 93.** What is the full form of IPCC?
(A) International Panel on Climate Change
(B) International Panel on Carbon Consumption
(C) Intergovernmental Panel on Climate
(D) None of these
- 94.** ASCII represents Number of characters C if it is using 7 bits
(A) 127
(B) 256
(C) 128
(D) None of these
- 95.** Which is the biggest multipurpose project in India?
(A) Nagarjuna Sagar
(B) Bhakra Nangal
(C) Damodar
(D) Krishanraja Sagar
- 96.** If an article is sold for Rs. 178 at a loss of 11
(A) Rs. 222.50
(B) Rs. 267
(C) Rs. 222
(D) Rs220
- 97.** If January 1st, 2007 is Monday, what was the day on 1st January 1995?
(A) Sunday
(B) Monday
(C) Friday
(D) Saturday
- 98.** Which tree species is used for making railway sleepers?
(A) Sal
(B) Teak
(C) Redwood
(D) Sardines
- 99.** The Public Accounts Committee submits its report to
(A) the Speaker of Lok Sabha
(B) the Comptroller and Auditor General
(C) the President of India
(D) the Minister of Parliamentary Affairs
- 100.** In the following sequence find the last term. A, D, Z, E, Y, F?
(A) W
(B) V
(C) X
(D) U
- 101.** Find the odd one out of the following
(A) hockey
(B) cricket
(C) baseball
(D) basketball
- 102.** An input operation performs two functions, they are
(A) It causes an input device to physically read data, and transmits the data from the input device to an input area of CPU.
(B) It causes an input device to transmits the data convert into image form.
(C) It causes an input device to physically read data, transmit the data to printer.
(D) None of these
- 103.** Which of the following is not true about earthquake?
(A) The shaking of ground is known as earthquake
(B) It is a geological hazard
(C) Seismic waves generated by earthquakes are invaluable for studying the interior of earth
(D) Tsunami causes earthquakes
- 104.** Very small time intervals less than Nano seconds are accurately measured by the
(A) Quartz clocks

- (B) Pulsars
(C) Atomic clocks
(D) White dwarfs
- 105.** What is true about Lonar Lake?
(A) It is a Salt Lake
(B) It is a Crater Lake
(C) It is a Lagoon Lake
(D) It is situated in Rift Valley
- 106.** Which broadcasting system for TV is followed in India?
(A) NTSE
(B) PAL
(C) SECAM
(D) NTCS
- 107.** The biggest news agency of India is
(A) PTI
(B) UNI
(C) NANAP
(D) Samachar Bharati
- 108.** The F-test
(A) is essentially a two tailed test.
(B) is essentially a one tailed test.
(C) can be one tailed as well as two tailed depending on the hypothesis.
(D) can never be a one tailed test.
- 109.** To educate according to nature means
(A) to come back to nature as oppose to mechanical life
(B) to educate in accordance with the law of nature of human development
(C) to study natural laws and apply them to educational process.
(D) All of the above
- 110.** What is the full form of abbreviation HFT used in research?
(A) Holzman Inkblot Test
(B) Holfkins Issac Test
(C) Higher Intelligence Test
(D) Hinds Informative Test
- 111.** In order to produce a quality of research, it depends on
(A) use of high technology
(B) available facilities
(C) training in research methodology
(D) dedication on the part of researcher
- 112.** In comparing the lecture and developmental lessons which one of the following is false?
(A) There is more public developmental developmental lesson
(B) It is more difficult to ascertain public learning in a lecture lesson
(C) The lecture method is more conducive to largest class
(D) Slow children derive more benefits from a lecture than brighter children do
- 113.** Who among the following used the term "variance" for the first time?
(A) J.L. Bayerd
(B) J.L Murphy
(C) R.A. Fisher
(D) Rudi Shawn
- 114.** The Constitution of India envisages three types of services
(A) Navy, Air Force, Army
(B) Civil, Military and Paramilitary
(C) All India Services, Central Services, State Services
(D) None of these
- 115.** The aim of vocationalization of education is :
(A) preparing students for a vocation along with knowledge
(B) converting liberal education into vocational education
(C) giving more importance to vocational than general education
(D) making liberal education job-oriented

- 116.** If a teacher is cracking filthy jokes in a class and you are unable to stop him, then what will you do ?
- (A) persuade him/her decently not to waste their time-in filthy jokes.
 (B) live in isolation or change the group.
 (C) instruct him to mind his/her language in class.
 (D) be critical and remind him for the nobility of their jobs.
- 117.** Which of the following is recording source of data ?
- (A) Books
 (B) Journals, Magazines and Newspapers
 (C) Internet clippings
 (D) All of these
- 118.** The main purpose of evaluating listening is
- (A) to accept or reject an idea given to the listener
 (B) to evaluate the speaker's credibility and personality
 (C) Both (a) and (b)
 (D) All of these
- 119.** Which will be the missing term in the following sequence : 0 , 3, 8 , 15 , 24 , 35 , ? 63 , 80 , 99.
- (A) 68
 (B) 49
 (C) 64
 (D) 36
- 120.** If BOY is coded as ACNPXZ and COW as BDNPVX then how will you code LIFE ?
- (A) KMHJEGDF
 (B) LMGHEGDF
 (C) LMHJGEFD
 (D) None of these
- 121.** INSAT- 1 series was procured from
- (A) USA
 (B) France
 (C) USSR
 (D) Japan
- 122.** Winter rains in north -west India are generally associated with the phenomenon of
- (A) retreating monsoon
 (B) temperate cyclones
 (C) local thunderstorms
 (D) shift in Jet stream movement
- 123.** The colour of yellow sea is such on a account of
- (A) industrial pollution
 (B) peculiar types of phytoplankton growing there.
 (C) loess brought by Hwang-ho river.
 (D) high sulphur content in the bottom rocks
- 124.** All of the following tend to erode local control of education in favour of national control, except the
- (A) National Science Foundation
 (B) National Institute of Mental Health
 (C) College Entrance Examination Board
 (D) National Defence Education Act
- 125.** The teacher has been glorified by the phrase "Friend, philosopher and guide" because
- (A) He has to play all vital roles in the context of society
 (B) He transmits the high value of humanity to students
 (C) He is the great reformer of the society
 (D) He is a great patriot

- 126.** A teacher's major contribution towards the maximum self-realization of the student is affected through
- Constant fulfilment of the student's needs
 - Strict control of class-room activities
 - Sensitivity to students' needs, goals and purposes
 - Strict reinforcement of academic standards
- 127.** Which of the following sampling method is appropriate to study the prevalence of AIDS among male and female in India in 1976, 1986, 1996 and 2006 ?
- Cluster sampling
 - Systematic sampling
 - Queen sampling
 - Stratified random sampling
- 128.** Teacher's primary responsibility lies in
- planning educational experiences
 - implementing policies
 - keeping students record
 - All of the above
- 129.** Which of the following is/are the examples of qualitative variable ?
- Religion and Caste
 - Sex
 - Both (a) and (b)
 - None of these
- 130.** In case of equal emoluments. The best profession is that of
- Teacher
 - Doctor
 - An Engineer
 - Research Workers
- 131.** Which one of the following is true about the communication ?
- It is dynamic in nature
 - It is constantly changing
 - It is shifting in response to the overall situation
 - All of the above
- 132.** Which of the following methods of communication would be most effective in classroom?
- Lecture method
 - Multimedia method
 - Presenting written matter with the Lectures
 - Presenting written notes
- 133.** Intimate communication comes under the heading of
- intrapersonal communication
 - interpersonal communication
 - group communication
 - None of these
- 134.** Sharavati Hydro-electric Project is located in
- Odisha
 - Tamil Naidu
 - Andhra Pradesh
 - Karnataka
- 135.** Feedback system is weakest in which of the following?
- Interpersonal Communication
 - Intrapersonal Communication
 - Group Communication
 - Mass Communication
- 136.** Which one of the following is different from the other three ?
- Venus
 - Jupiter
 - Uranus
 - Neptune
- 137.** What is the full form of IUCN ?
- Indian Universal Centre of Nature
 - International Union for Conservation of Nature and Natural Resources

- (C) Indian Union for Conservation of Nature
(D) Interaction Union for Consumption of Natural Resources
- 138.** are self replicating malicious code independent of the action of the user but slow down the processes on entering a network.
(A) Viruses
(B) Worm
(C) Trojan Horse
(D) None of these
- 139.** India's first Defence University is set up in
(A) Haryana
(B) Delhi
(C) Punjab
(D) Uttar Pradesh
- 140.** Which of the following Institutes is situated in Karikudi (Tamil Nadu)?
(A) Central Electro Chemical Research Institute
(B) Central Marine Fish Research Institute
(C) Central Plantation Crop Research Institute
(D) None of these
- 141.** RAM means :
(A) Random Access Memory
(B) Rigid Access Memory
(C) Rapid Access Memory
(D) Revolving Access Memory
- 142.** Which one of the following is appropriate for natural hazard mitigation?
(A) International AID
(B) Timely Warning System
(C) Rehabilitation
(D) Community Participation
- 143.** The great Indian Bustard (*Ardeotis nigricaps*) bird is found in
(A) Thar Desert of India
(B) Coastal regions of India
(C) Temperate Forests in the Himalaya
(D) Tarai zones of the Himalayan Foot
- 144.** Which one of the following is a primary task of a teacher?
(A) To teach the prescribed curriculum.
(B) To stimulate and guide students learning.
(C) To promote habits of conformity to adult demands and expectations
(D) To provide diagnostic and remedial aid wherever desired.
- 145.** Which of the following systematically discovers relations and interaction among variables in real life situations such as school, factory, community etc ?
(A) Field experiments
(B) Field study
(C) Survey study
(D) Ex-post factor study
- 146.** Which of the following is/are components of ethical research ?
(A) Disclosure
(B) Understanding
(C) Competence
(D) All of the above
- 147.** Which one of the following has the largest share in classroom communication?
(A) Listening
(B) Reading
(C) Writing
(D) Speaking
- 148.** "mm-hmm" is a type of Feedback
(A) ambiguous

- (B) positive
(C) negative
(D) Either (a) or (c)
- 149.** Hour is related to 'second' in the same way as
(A) Bodhgaya
(B) Secondary
(C) Primary
(D) Intermediary
- 150.** Which of the following is a job of DNS ?
(A) Name display
(B) File transfer
(C) IP address display
(D) None of these
- 151.** What is bio chore?
(A) A unit of vegetation having uniformity of life form
(B) A unit of vegetation having same type of climate
(C) A unit of vegetation having large tree
(D) A unit of vegetation having grass land
- 152.** National Anthem ' Jan-gana-man' was composed by
(A) Madam Cama
(B) Surendranath Chatterji
(C) Bankimchandra Chatterji
(D) Rabindranath Tagore
- 153.** Universities having central campus for imparting education are called :
(A) Central Universities
(B) Deemed Universities
(C) Residential Universities
(D) Open Universities
- 154.** If you are doing experiments on a large group of samples which method of controlling will you adopt?
(A) Elimination
(B) Elimination and matching
(C) Randomization
(D) Matching
- 155.** Any effective communication system employs a feedback system in order to
(A) make the necessary modifications in the process.
(B) Understand more about the content.
(C) Find faults with the sender (teacher)
(D) find faults with the receiver (the students)
- 156.** Bull is related to Drought in the same way as cow is related to
(A) Livestock
(B) Milch
(C) Farm
(D) Fodder
- 157.** MICR devices can read
(A) letter
(B) numbers
(C) Both (a) and (b)
(D) None of these
- 158.** Pitchblende is the ore of
(A) rubidium
(B) francium
(C) radium
(D) uranium
- 159.** Disputes regarding the election of Vice President are decided by
(A) the Speaker
(B) the President
(C) the Parliament
(D) the Supreme Court
- 160.** DTH service was started in the year :
(A) 2000
(B) 2002
(C) 2004
(D) 2006

- 161.** Which number is missing in the following series ? 2, 5, 10, 17, 26, 37, 50 ?
 (A) 63
 (B) 65
 (C) 67
 (D) 69
- 162.** Use of radio for higher education is based on the presumption of :
 (A) Enriching curriculum based instruction
 (B) Replacing teacher in the long run
 (C) Everybody having access to a radio set
 (D) Other means of instruction getting out-dated
- 163.** If a student is absent from the classes for a long time
 (A) you will try to know the cause of his absence.
 (B) you would try to solve his problems or help him.
 (C) Both (a) and (b)
 (D) None of these
- 164.** Who has the least chance of becoming an effective teacher?
 (A) One who is a strict disciplinarian.
 (B) One who knows his subject well.
 (C) One who has no interest in teaching.
 (D) One who teaches moral values.
- 165.** Educational quality is
 (A) Fundamental right
 (B) Only a customary right
 (C) Only a legal right
 (D) None of these
- 166.** Who developed the first paper for the human beings ?
 (A) The Babylonians
 (B) The Chinese
 (C) The Sumerians
 (D) The Aryans
- 167.** Which of the following options will complete the series? AZ, GT, MN, ? , YB.
 (A) KF
 (B) RX
 (C) SH
 (D) TS
- 168.** In 1999-2000, the ratio of export to the import is
 (A) 9 : 10
 (B) 10 : 9
 (C) 14 : 15
 (D) 15 : 14
- 169.** Appropriation Act of the General Budget is
 (A) a Finance Bill
 (B) a Money Bill
 (C) an Ordinary Bill
 (D) a Constitution Amendment Bill
- 170.** Probability sampling implies :
 (A) Stratified Random Sampling
 (B) Systematic Random Sampling
 (C) Simple Random Sampling
 (D) All of the above
- 171.** If the radius of a circle is increased by 50 percent. Its area is increased by
 (A) 125 per cent
 (B) 100 per cent
 (C) 75 per cent
 (D) 50 per cent
- 172.** Which of the following is fast step of teaching ?
 (A) Presentation
 (B) Application
 (C) Comparison
 (D) Generalisation

- 173.** Who among the following considered hypothesis as an assumption or preposition ?
- (A) George H. Landenberg
(B) Gorgy G. Moore
(C) Stephan Hawking
(D) Alber D. Nero
- 174.** Which of the following is /are correct?
- (A) A teacher should introduce the lesson before he starts teaching
(B) a teacher should have command over his language
(C) A teacher should have command over his subject
(D) All of these
- 175.** Which one of the following is a non-probability sampling
- (A) Purposive Sampling
(B) Cluster Sampling
(C) Stratified Random Sampling
(D) Simple Random Sampling
- 176.** The most important aspect of communication-listening can be improved by
- (A) making voice effective and impressive.
(B) making communication material novel interesting and need based.
(C) making the full attention
(D) All of these
- 177.** Kavaratti is the capital city of
- (A) Pondicherry
(B) Andaman-Nicobar Islands
(C) Lakshadweep
(D) None of these
- 178.** Atmosphere exists because of
- (A) gravitational force of earth
(B) revolution of earth
(C) rotation of earth
(D) None of these
- 179.** Viruses that can change their appearance and use encryption are known as
- (A) boot sector virus
(B) polymorphic virus
(C) stealth virus
(D) None of these
- 180.** Sea level rise results primarily due to :
- (A) Heavy rainfall
(B) Melting of glaciers
(C) Submarine volcanism
(D) Seafloor spreading
- 181.** Tsunami occurs due to :
- (A) Mild earthquakes and landslides in the oceans
(B) Strong earthquakes and landslides in the oceans
(C) Strong earthquakes and landslides in the mountains
(D) Strong earthquakes and landslides in the deserts
- 182.** Effective teaching involves
- (A) teacher dominance
(B) pupil dominance
(C) teacher and pupil interview
(D) silence
- 183.** The research guide requires which of the following essential qualities?
- (A) Subject matter expertise
(B) Methodological expertise
(C) Inter-disciplinary expertise
(D) All of these
- 184.** When was the 1st Indian postal stamp was issued?
- (A) 1937
(B) 1876
(C) 1854
(D) 1852

- 185.** If Dust is called Air, Air is called Fire, Fire is called Water, Water is called Colour. Colour is called Rain and Rain is called Dust, then where do fish live?
- (A) Colour
(B) Dust
(C) Water
(D) Fire
- 186.** Which college has the least number of students from the discipline of Science?
- (A) A
(B) C
(C) E
(D) D
- 187.** Jon Von Neumann developed
- (A) the first electronic computer.
(B) first electronic flip flop machine
(C) stored programme concept
(D) None of these
- 188.** Which of the following words is not included in preamble of the constitution?
- (A) Socialist
(B) Secular
(C) Dignity
(D) Integrity
- 189.** The President of India may either give his assent or withhold his assent on a reserved bill of a state in case if the bill is
- (A) Finance Bill
(B) Money Bill
(C) An Ordinary Bill
(D) All of these
- 190.** Central Institute of Design is situated at
- (A) Ahmedabad
(B) Pune
(C) Gulmarg
(D) Dehradun
- 191.** Maximum participation of students is possible
- (A) discussion method
(B) lecture method
(C) audio-visual aids
(D) text book method
- 192.** Which technique is generally followed when the population is finite?
- (A) Area Sampling Technique
(B) Purposive Sampling Technique
(C) Systematic Sampling Technique
(D) None of these
- 193.** During lecture in classroom, some students hesitate to say that they are unable to understand your lecture. What may be the reason for this?
- (A) You are unable to communicate effectively.
(B) Your educational methodology is inadequate
(C) Students fear you.
(D) There is a cordial relation between you and your students
- 194.** Which of the following is not cyclone prone area in India?
- (A) Orissa
(B) Gujarat
(C) Andhra Pradesh
(D) Assam(Asom)
- 195.** The most significant impact of volcanic eruption has been felt in the form of :
- (A) change in weather
(B) sinking of islands
(C) loss of vegetation
(D) extinction of animals
- 196.** Electoral disputes arising out of Presidential and Vice-Presidential Elections are settled by
- (A) Election Commission of India

- (B) Joint Committee of Parliament
(C) Supreme Court of India
(D) Central Election Tribunal
- 197.** All of the following statements about a teacher are correct except that he/she is
(A) a friend guide and philosopher
(B) teacher that the students do not know
(C) the leader in the class.
(D) Changes his attitudes and behaviour according to the need of the society.
- 198.** The quality of research is judged by the
(A) experience of researcher.
(B) Depth of the research.
(C) Methodology followed in conducting the research.
(D) Relevance of research.
- 199.** The study in which the investigators attempt
(A) Survey Research
(B) 'Ex-post Facto' Research
(C) Historical Research
(D) Summative Research
- 200.** Which of the following is not created by the Act of Parliament ?
(A) Atomic Energy Commission
(B) Backward Class Commission
(C) University Grants Commission
(D) Railway Board
- 201.** Micro teaching is most effective for the student-teacher :
(A) during the practice-teaching
(B) after the practice- teaching
(C) before the practice-teaching
(D) None of these
- 202.** The VIRUS is a
(A) Software program
(B) Hardware
(C) Device
(D) None of these
- 203.** Teaching model is a way to
(A) teach in a formal as well as informal way.
(B) Select such stimulus so that, the students may give expected feedback.
(C) Talk and think about instruction, which may contain facts in organised and classified manner.
(D) both (a) and (b)
- 204.** Which of the following is Mahila University in Rajasthan ?
(A) Kota University
(B) M.D.S. University, Ajmer
(C) Banasthali Vidyapeeth
(D) J.N.Y. University, Jodhpur
- 205.** How many Mondays are there in a particular month of a particular year. If the month ends on Wednesday?
(A) 5
(B) 4
(C) 3
(D) None of these
- 206.** Which is the number that comes next in the sequence ? 9, 8 , 8, 8, 7, 8, 6,
(A) 5
(B) 6
(C) 8
(D) 4
- 207.** Which of the following Hydel power projects is situated in Jammu and Kashmir ?
(A) Lok Tak
(B) Riwand
(C) Salal
(D) Upper Sileru

- 208.** Which one of the following words is different from the rest three
- (A) Odour
(B) Smell
(C) Fragrance
(D) Foul
- 209.** Which of the following is/are step/steps of Research plan?
- (A) Objectives of the study
(B) Review of literature
(C) Research hypothesis
(D) All of these
- 210.** What is/are the objectives of workshop in research ?
- (A) Consideration of alternative research models through the presented different model programmes
(B) Defining and refining of problem to help researcher
(C) Both (a) and (b)
(D) None of these
- 211.** Which of the following is an old form of communication?
- (A) Fire signals
(B) Radio Signals
(C) Telegrams
(D) None of these
- 212.** Which of the following statements is true with respect to Electronic Fund Transfer?
- (A) To verify the identity of the card holder using signature is more than using the PIN.
(B) All cards are not checked with hot card number
(C) A central authority verifies the signature of the card
(D) None of these
- 213.** Circle graphs are used to show :
- (A) How various sections share in the whole
(B) How various parts are related to the whole
(C) How one whole is related to other wholes
(D) How one part is related to other parts
- 214.** Research can be conducted by a person who:
- (A) Has studied research methodology
(B) Holds a postgraduate degree
(C) Possesses thinking and reasoning ability
(D) Is a hard worker
- 215.** suppose you are asked by your friends to take the membership of the teachers association. How could you take decision in this situation?
- (A) You will give priority to social relations, therefore, you will accept the offer.
(B) You will have, faith in unity so you will accept the membership.
(C) You will de – affiliate yourself from the colleagues instead of enmity with the management.
(D) You will try to avoid the issue.
- 216.** which of the following steps would you consider first as an effective communicator?
- (A) Select the channels of communication
(B) Plan the evaluation procedure
(C) Specify the objectives of communication
(D) Identify the various media for communication
- 217.** In this question four words have been given, out of which three are alike in the

- same manner and fourth one is different. Choose the odd one out.
- (A) Tailor
(B) Carpenter
(C) Blacksmith
(D) Barber
- 218.** Ethernet is an example of
(A) LAN
(B) WAN
(C) MAN
(D) None of these
- 219.** the final decision about the disqualification of an M.P. of Lok Sabha under the law of defection rests with
(A) Speaker
(B) Election Commission
(C) Supreme Court
(D) President
- 220.** If A stands for 5, B for 6, C for 7, D for 8 and so on, then the following numbers stand for 17,19,20,9,and 8 :
(A) PLANE
(B) MOPED
(C) MOTOR
(D) TONGA
- 221.** an effective teaching means all of the following except
(A) A teacher teaches with enthusiasm.
(B) A teacher finds fault in his students.
(C) A teacher puts emphasis more on teaching than on class control.
(D) A teacher is interested in making the subject matter understood rather than on completing the course.
- 222.** Independent variables are not manipulated in
(A) Normative research
(B) ex-post facto researches
(C) Both of the above
(D) None of these
- 223.** Promotional device which is used to improve the image and profitability of a periodical is known as
(A) Personal Relation
(B) Personnel Relation
(C) Public Relation
(D) Promotional Relation
- 224.** Jackal ' is related to ' Carnivorous' in the same way as ' Goat ' is related to
(A) Omnivorous
(B) Herbivorous
(C) Carnivorous
(D) Multivorous
- 225.** what is EDI ?
(A) Electronic Data Interface
(B) Electronic Data Internet
(C) Electronic Data Interchange
(D) None of these
- 226.** The coldest place on the earth among the following is
(A) Halifax
(B) Chicago
(C) Siachin
(D) Verkhoyansk
- 227.** The President of India
(A) Enjoys absolute powers.
(B) Enjoys limited but real powers.
(C) Enjoys only nominal powers.
(D) Enjoys no powers.
- 228.** LAN stands for :
(A) Local and National
(B) Local Area Network
(C) Large Area Network
(D) Live Area Network

- 229.** Information and Communication Technology includes:
- (A) On line learning
 - (B) Learning through the use of EDUSAT
 - (C) Web Based Learning
 - (D) All the above
- 230.** if you invite personal friends and colleagues in your son's birthday party, the procedure of invitation will be
- (A) Only personal invitation will be extended to most dear ones.
 - (B) Only a specific group of teachers will be invited.
 - (C) Extend invitation to all the teachers without any distinction.
 - (D) You would invite all the personnel of the school.
- 231.** for a proposition to be true it is necessary that it should have all of the following characteristics EXCEPT
- (A) It must be objective
 - (B) It must be in tune with accepted beliefs.
 - (C) It must be consistent.
 - (D) It must be testable.
- 232.** SITE stands for
- (A) System for International Television based Education.
 - (B) Satellite Instruction Television Experiment.
 - (C) Satellite Instructional Technological Experiment.
 - (D) System of Indian Trade in Europe.
- 233.** Communication satellites work through
- (A) Transponders
 - (B) Transmitters
 - (C) Radars
 - (D) None of these
- 234.** To gain popularity among students, teacher should :
- (A) personally help them in their study
 - (B) frequently organize tours
 - (C) dictate notes while teaching
 - (D) maintain good social relationship
- 235.** Which one of the following is not a quality of teacher?
- (A) Teacher should use modern techniques. Methods and gadgets are teaching for better understanding of subject matter.
 - (B) Teacher should maintain an autocratic atmosphere in the class.
 - (C) He/she should have interest in his/her profession and knowledge must be updated.
 - (D) Teacher must be fair in grading and marking.
- 236.** Which of the following is 'NOT' true?
- (A) Teaching is an art.
 - (B) Teachers can be trained.
 - (C) Teachers are born.
 - (D) All of the above
- 237.** The main function of educational psychology is to provide prospective teacher with:
- (A) research procedures for evaluating current teaching procedure.
 - (B) Insight into the needs, problems and styles of behaviour of teacher.
 - (C) Insight into various aspects of modern teaching education.
 - (D) How to deal with students and everyday class situation.
- 238.** Which of the following is not a quality of teacher?
- (A) Teacher should be keen in his work and should be enthusiastic and anxious to keep his knowledge fresh and update.

- (B) He should have feelings of love and sympathy.
- (C) His language should be understandable to students.
- (D) He may not know child psychology.
- 239.** You bringing your pupil for a monument visit outside your city. A father is reluctant to send his child for this. What will you do?
- (A) Leave that child and go with others
- (B) Try to understand his father's problems
- (C) Try to convince him for sending his child by explaining the importance of such as educational and cultural trip.
- (D) None of these
- 240.** The primary task of a teacher is :
- (A) to teach the prescribed curriculum
- (B) to prepare students to pass their examination
- (C) to make them a thinking people
- (D) to modify their behaviour according to the needs of our society and country.
- 241.** Who defined teaching as a "An organised system of specific activities aimed to help the learner learn something" ?
- (A) Morrin
- (B) Byod
- (C) Smith
- (D) Jackson
- 242.** The main role of education according to Plato is :
- (A) to develop the power of contemplation
- (B) to develop the personality of each individuals
- (C) to strengthen the state.
- (D) All of these
- 243.** Which of the following statements regarding motivation is correct?
- (A) Freewill, intellect and reason are the motivating factors according to Plato.
- (B) Inborn, unlearned tendencies, called instincts are the motivating forces according to James Burt.
- (C) Curiosity and level of aspiration are motivating factors according to Berlyne.
- (D) All of these
- 244.** Freedom of Press as such
- (A) has been guaranteed by the constitution.
- (B) Has not been expressly guaranteed by the constitution
- (C) has been given only to selected institutions.
- (D) None of these
- 245.** Fill in the missing member in the sequence:
- (A) father
- (B) niece
- (C) sister
- (D) uncle
- 246.** The planning commission of India is
- (A) Tripura
- (B) Meghalaya
- (C) Mizoram
- (D) Manipur
- 247.** Parliament can legislate on matters listed in the State list:
- (A) With the prior permission of the President.
- (B) Only after the constitution is amended suitably.
- (C) In case of inconsistency among State legislatures.
- (D) At the request of two or more States.

- 248.** Catharsis means discharge of emotions. A teacher can let off pent up energy of his disciple through
- (A) picnic/excursions
 - (B) mock- parliament
 - (C) celebration of festivals
 - (D) all of these
- 249.** Major limitation of mass communication is
- (A) it is very costly
 - (B) the feedback system is weak
 - (C) more time is required to produce the message
 - (D) the success largely depends upon the producer
- 250.** In the income section, how many degrees (approx.) should there be in central angle of the sector representing income tax?
- (A) 105
 - (B) 120
 - (C) 135
 - (D) 150
- 251.** Water for civil supplies are commonly purified by
- (A) Chlorination
 - (B) Distillation
 - (C) Filtration
 - (D) Decantation
- 252.** which of the following is/are the qualities of teacher?
- (A) Teacher should be able to arrange subject matter in a logical way
 - (B) Teacher should inspire his pupil
 - (C) Teacher should have sweet, polite and clear voice.
 - (D) All of these
- 253.** The students who keep asking questions in the class
- (A) Performs the role of an active member of the political party in power.
 - (B) Should be encouraged to participate in classroom discussion
 - (C) Should be encouraged to find answer independently
 - (D) Should be encouraged to continue questioning.
- 254.** which of the following one is most effective for a teacher?
- (A) Knowledge
 - (B) Feedback
 - (C) Management
 - (D) Teaching skills
- 255.** which is the source of primary data
- (A) Books
 - (B) Newspapers
 - (C) Respondent
 - (D) Reports
- 256.** Many experienced teachers go into a classroom and embark straight away upon a lesson. As a beginner to the teaching profession will you
- (A) Adopt the same procedure
 - (B) Make a written note of your preparation
 - (C) As the students a like
 - (D) None of these
- 257.** which can be described as an ideal teaching technique?
- (A) Repetitive drill and rote memorization
 - (B) Using props and manipulative to help students understand abstract concept.
 - (C) Encouraging in group discussion for logical thinking.
 - (D) Both (b) and (c)

- 258.** Quality of education in a school/college can be measured through
- (A) Infrastructural facilities available
 - (B) Manpower teachers and principal available
 - (C) Students achievements
 - (D) All of the above
- 259.** The Idea of ' Democratic Decentralisation' in India was popularised by
- (A) A.D. Gorwala Committee, 1951
 - (B) Paul H. appleby Committee, 1951
 - (C) B.R. Mehta Committee, 1957
 - (D) Ashok Mehta Committee, 1978
- 260.** When a research problem is related to heterogeneous population, the most suitable sampling method is
- (A) Cluster Sampling
 - (B) Stratified Sampling
 - (C) Convenient Sampling
 - (D) Lottery Method
- 261.** If a student becomes unconscious in the class what will you do first?
- (A) Rushing to the principal's office and canvassing for help immediately
 - (B) Telephoning (informing) student's parents and wait for them
 - (C) Giving first aid to him and trying to contact any nearby doctor
 - (D) Making arrangement to send him to his house or nearby hospital
- 262.** If a child is a back bencher and unable to watch the blackboard clearly. As a result he stands, sees and sits repeatedly. What inference will you draw regarding the case?
- (A) The child is of short height as compared to his classmates.
 - (B) The blackboard is under shining effect of light.
 - (C) The child has a defective-vision
 - (D) Both (a) and (c)
- 263.** Which of the following is a characteristic of a researcher?
- (A) He a specialist rather than generalist.
 - (B) He is industrious and persistent on the trail of discovery.
 - (C) He is not operational to his chosen filed but accepts the reality.
 - (D) All of these
- 264.** A mentally retarded student attends your lecture and sits in a deaf and dumb manner. What will you do?
- (A) Make your lecture very simple and spare some extra time for him.
 - (B) You do not like to spoil majority for the individual.
 - (C) You pressurised the student to leave the class.
 - (D) You do not support him at all.
- 265.** Teaching in higher education implies
- (A) Presenting the information given in the text book
 - (B) Asking questions in the class and conducting examinations
 - (C) helping students prepare for and pass the examination
 - (D) Helping students how to learn
- 266.** in your view arrangement for "education on environment" in the school
- (A) is important for creating an awareness among an awareness among students about the environment.
 - (B) is likely to put more burdens on students.
 - (C) Is a mode of entertainment for students?
 - (D) Is like giving work to teacher.

- 267.** Failure of the teacher to communicate its ideas well to the students may result in
- (A) Classroom indiscipline.
 - (B) Loss of student's interest in hot topic being taught.
 - (C) Increase in number of absentees in the class.
 - (D) All of these
- 268.** if a group of students enter your room and abuse you and behave violently with you, at that time how would you control your emotions?
- (A) You will react in a similar fashion and try to assault them physically.
 - (B) First, you will try to pacify their emotions and then ask politely about their behaviour.
 - (C) You will feel ashamed among your teachers community.
 - (D) You will report the case to the principal with recommendation of punitive measures.
- 269.** what is the reason behind the adoption of 'GRADE' system instead of our old 'MARKS' system?
- (A) It will improve the quality of assessment.
 - (B) It will improve teacher student relationship.
 - (C) It will eliminate the differentiation between students on marks basis.
 - (D) Grading system is easier than marks system.
- 270.** why do you support the five stage method of Herbart?
- (A) In this there is no scope for individual diversity of students.
 - (B) Under this, generalisation is not required to be done while teaching subjects like language, history, geography etc.
 - (C) In this method, it is difficult to make co-ordination between various subjects.
 - (D) All of these
- 271.** which of the following are true about teaching?
- (A) Teaching is dynamic in nature.
 - (B) Teaching is a process.
 - (C) It changes its concept with time and place.
 - (D) All of these
- 272.** Which of the following statement is correct?
- (A) Discoveries are researches
 - (B) Researches lead to discovery
 - (C) Invention and Research are related
 - (D) None of the above
- 273.** If a teacher had to establish his credibility in evaluating answer sheets he must be
- (A) strict
 - (B) lenient
 - (C) objective
 - (D) prompt
- 274.** Mainstreaming is a term associated with
- (A) career education
 - (B) education for handicapped
 - (C) inter-age class groupings
 - (D) environmental education
- 275.** Suggestion helps in the development of information moral behavior, aesthetic sense and character traits. Which of the following is the chief source of suggestions which would his life?
- (A) Pupil of same age
 - (B) Teachers
 - (C) Elders
 - (D) None of these

- 276.** A teacher exploits students in your school. In this situation, what you will do?
- (A) Report the matter to the principal.
 (B) Not interfere in this matter.
 (C) Guide the teacher please stop this activity.
 (D) Go on Satyagraha against the teacher.
- 277.** Of the following learning theories, the one that embodies the idea that the learning takes place through insight is known as
- (A) Gestalt
 (B) Stimulus-Response
 (C) Connectionist
 (D) Pragmatic
- 278.** The teacher ought to know the problems prevalent in the field of education. The reason is that
- (A) only a teacher can do something about solving them.
 (B) he can tell about the same to another teacher.
 (C) Teachers can tell the government about it.
 (D) With this knowledge, the teacher can have information about education.
- 279.** The male students in your class are annoyed with you on the pretext you that have a favor to the female students. In such an embarrassing situation how would you like to control them in class?
- (A) You will tell the male students that girls have no option except to depend on school teacher for their academic assistance.
 (B) You will justify that most of the female students are more sincere towards their studies than male students.
 (C) You will justify to the male students that it is difficult for you refuse the request made by female students
 (D) None of these
- 280.** With respect to the development of skills, all of the following are correct except that
- (A) Pupil of same mental age should learn at the same rate.
 (B) Group interaction increases the skills
 (C) group instruction facilitates the learning process
 (D) workbooks can be invaluable learning aid.
- 281.** When you make a mistake while teaching in the class and your students point it out angrily then what will you does?
- (A) You will break all limits of anger
 (B) You will feel sorry for committing the blunder
 (C) You will scold him/her and resist them
 (D) You will leave the class for few days
- 282.** The project method of teaching is best associated with the philosophy of
- (A) John Dewey
 (B) Max rafferty
 (C) Robert Hatchins
 (D) B.F. Skinner
- 283.** In our present society where values are deteriorating, the excellent education will be which
- (A) enables one to earn in an easy manner.
 (B) Exaggerates the competition in the society.
 (C) Works for establishment of human and cultural value.
 (D) Decelerates the social change in society.

- 284.** Professors need to study educational philosophy mainly because
- (A) most professors know nothing about educational philosophy
 - (B) most professors follow a wrong philosophy
 - (C) they may improve their work by classifying their philosophy.
 - (D) All of the above
- 285.** On which of the following statements there is consensus among educators?
- (A) Disciplinary cases should be sent to the principal only when other means have failed.
 - (B) Disciplinary cases should never be sent to principal's office.
 - (C) Disciplinary cases should be totally neglected in the class.
 - (D) None of these
- 286.** A competent teacher must have a sound knowledge about:
- (A) Practice, Concept, Theory and Research
 - (B) theory, Research, Practice and concepts
 - (C) Concept, Theory, Practice and Research
 - (D) Research, Practice, Concept and Theory
- 287.** Below are given some probable characteristics of an ineffective teacher, which of the following is most likely to be characterised the ineffective teacher?
- (A) Emphasis upon standards
 - (B) Emphasis upon pupil discussion in the clarification of group's goals
 - (C) emphasis upon the control of immediate situation
 - (D) None of these
- 288.** Maximum participation of students is possible in teaching through
- (A) Lecture method
 - (B) Discussion method
 - (C) Textbook method
 - (D) Audi-visual aids
- 289.** At present right to property is a
- (A) Legal Right
 - (B) Human Right
 - (C) Fundamental Right
 - (D) Natural Right
- 290.** Failure of students in examination, it may be the fault of
- (A) teacher
 - (B) principal
 - (C) students themselves
 - (D) both (a) and (c)
- 291.** Formulation of hypothesis may not be necessary in
- (A) survey studies
 - (B) fact finding (Historical) studies
 - (C) normative studies
 - (D) experimental studies
- 292.** The carrier of mass communication is known as
- (A) mass media
 - (B) print media
 - (C) electronic media
 - (D) None of these
- 293.** Institute of technology is situated at
- (A) BHU, Varanasi
 - (B) Osmania, University
 - (C) Jamia Millia, Delhi
 - (D) None of these
- 294.** Is the most advantageous payment way when orders are mostly received through phone or e-mail.
- (A) Real time processing solution

- (B) Weblink
(C) API
(D) Virtual terminal solution
- 295.** Which of the following is not a National Park?
(A) Kanheri
(B) Gir
(C) Corbett
(D) Kaziranga
- 296.** The combination of computing, telecommunications and media in a digital atmosphere is referred to as:
(A) online communication
(B) integrated media
(C) digital combine
(D) convergence
- 297.** In a certain code, FHQK means GIRL. How will WOMEN be written in the same code?
(A) VNLDM
(B) FHQKN
(C) XPNFO
(D) VLNDM
- 298.** In the guidance of learning a teacher has many important roles. Which one of the following is the least important aspect of the teachers role in the guidance of learning?
(A) The provision of continuous diagnostic and remedial help.
(B) The forestalling of habits.
(C) The provision of encouragement and moral support.
(D) The development of insight into what constitute the pitfalls and danger to be avoided.
- 299.** Feed back is
(A) immediate reaction of receiver
(B) response of receiver to communicator's message
(C) analysis done by the receiver of the communicator's message
(D) None of these
- 300.** M P K R I T ?
(A) U
(B) V
(C) W
(D) G
- 301.** FTP is better than HTTP because
(A) it uses separate channels for data transmission and flow control.
(B) it transfers data from the web server.
(C) it transfers data from the life sever.
(D) it copies file to the user's hard disk in the destination specified by the user.
- 302.** Video transmission over the Internet that looks like delayed live casting is called:
(A) virtual video
(B) direct broadcast
(C) video shift
(D) real- time video
- 303.** Indian Institute of Foreign Trade is situated in
(A) Lucknow
(B) Dehradun
(C) New Delhi
(D) Mumbai
- 304.** Water is always involved with landslides. This is because it :
(A) reduces the shear strength of rocks.
(B) increases the weight of the overburden
(C) enhances chemical weathering
(D) is a universal solvent

- 305.** Which one of the following is not concerned with the duties of a teacher?
- (A) To discipline the students
(B) To prepare students for examinations
(C) to make monthly and annual reports
(D) To participate in extra curricular activities
- 306.** Hypothesis cannot be stated in
- (A) null and question form terms
(B) declarations terms
(C) general terms
(D) directional terms
- 307.** Which of the following is not a successful communicator?
- (A) One who presents material in a precise and clear way.
(B) One who is able to adapt himself according to the language of the communicate.
(C) One who knows a lot but is somewhat reserve in his attitude
(D) One who sometimes becomes informal before the receiver and develops rapport.
- 308.** In each of the four group of letters one is different from the others. Pick the odd one out.
- (A) ISRQ
(B) MLKJ
(C) HGFD
(D) NMLK
- 309.** PAT, PEN, PIN, PUT, ?
- (A) PIG
(B) PET
(C) PUT
(D) POT
- 310.** An effective teacher adopts the norms of the
- (A) Democratic Society
(B) Laissez Faire Society
(C) Autocratic Society
(D) All of these according to conditions
- 311.** The decline of the British Empire should have spelt the decline of English
- (A) the statement is a fact
(B) the statement is an advice
(C) the statement is an opinion
(D) the statement is a prejudice
- 312.** ATMs of bank have
- (A) emoney
(B) only money transferring capabilities
(C) real currency
(D) None of these
- 313.** Line access and avoidance of collision are the main functions of :
- (A) the CPU
(B) the monitor
(C) network protocols
(D) wide area networks
- 314.** Malaria is caused by
- (A) bacterial infection
(B) viral infection
(C) parasitic infection
(D) fungal infection
- 315.** Why a teacher is called the leader of the class?
- (A) He masters the art of oratory like a political leader.
(B) He is autocratic emperor of his class.
(C) He belongs to a recognised teacher's union.
(D) He is a maker of the future of his students.

- 316.** The Lok – Sabha can be dissolved before the expiry of its normal five year term by
- The Prime Minister
 - The Speaker of Lok Sabha
 - The President on the recommendation of the Prime Minister
 - None of these
- 317.** Which of the following is not a Fundamental Right?
- Right to Equality
 - Right to Education
 - Right to freedom of speech and expression
 - Right to Employment
- 318.** Joint SAARC University of eight SAARC nations will be established in
- Colombo (Sri Lanka)
 - Dhaka (Bangladesh)
 - New Delhi (India)
 - Male (Maldives)
- 319.** The historical research is different from experimental research in the process of
- replication
 - formulation of hypothesis
 - hypothesis testing
 - All of the above
- 320.** The depth of any research can be judged by:
- title of the research.
 - objectives of the research.
 - total expenditure on the research
 - duration of the research.
- 321.** The word vitiate used in the second paragraph means
- tarnish
 - destroy
 - negate
 - debase
- 322.** Which of the following is/ are true about shooting stars?
- Certain objects which appear to fall from sky leaving a streak of light are called shooting stars.
 - they are also called meteors.
 - As there stars travels through atmosphere, these pieces become hot, burn and emit light thus acquiring brightness.
 - All of these
- 323.** Laptop is a
- Mini-computer
 - Micro-computer
 - Desktop PC
 - None of these
- 324.** A member of UPSC holds office for a period of
- 5 years
 - 7 years
 - Six years or sixty five years of age whichever is more.
 - Six years or sixty five years of age whichever is earlier.
- 325.** The first Indian chronicler of Indian history was:
- Megasthenes
 - Fahiyani
 - Huan Tsang
 - Kalhan
- 326.** Which of the following statements is correct?
- An increase in the production of machines increases the organisational efficiency of the economy.
 - Better economic organisation leads to a more efficient use of machines
 - Better economic organisation leads to a more efficient use of machines.
 - Machines produce money leading to an increase in productivity of the economy.

- 327.** Which of the following dams is not on Narmada river?
 (A) Indira Sagar Project
 (B) Jobat Project
 (C) Maheshwar Hydrel Power Project
 (D) Koyna Power Project
- 328.** Nano knowledge city is being established at
 (A) Jaipur
 (B) Hyderabad
 (C) Bangalore
 (D) Chandigarh
- 329.** 76.54.32.98?
 (A) 23
 (B) 44
 (C) 43
 (D) 33
- 330.** The system file of an operating system is
 (A) ASM
 (B) COM
 (C) DOT
 (D) pdf
- 331.** Which of the following is correct statement?
 (A) Computers can be used for diagnosing the difficulty of a student in learning a subject
 (B) Psychological testing can be done with the help of computer provided a software is available
 (C) A set of instructions is called a programme
 (D) All the above
- 332.** In which year the University Grants Commission was established ?
 (A) 1948
 (B) 1944
 (C) 1953
 (D) 1960
- 333.** A message is
 (A) what is actually transmitted
 (B) what a receiver actually receives
 (C) what a communication actually produces
 (D) None of these
- 334.** The important pre-requisites of a researcher in sciences, social sciences and humanities are
 (A) laboratory skills, records, supervisor, topic
 (B) Supervisor, topic, critical analysis, patience
 (C) archives, supervisor, topic, flexibility in thinking
 (D) topic, supervisor, good temperament, pre-conceived notions
- 335.** Which of the following is a product of learning?
 (A) Maturation
 (B) Intelligence
 (C) Skills
 (D) Forgetness
- 336.** UNO has fixed the target for 'Education for All' till the year
 (A) 2013
 (B) 2012
 (C) 2015
 (D) 2013
- 337.** A channel is
 (A) medium, which carries the message
 (B) an agent who which reacts on the behalf of receiver
 (C) an agent who encoded/decoded the receiver
 (D) All of the above

- 338.** Data is computerized to
- (A) meet the business requirement
 - (B) to increase the integrity value of the data
 - (C) to ensure optimal utilization of resources
 - (D) modularity
- 339.** An atom bomb is based on the principle of
- (A) nuclear fusion
 - (B) nuclear spallation
 - (C) nuclear fission
 - (D) None of these
- 340.** Color cards are used for
- (A) Monitors
 - (B) CPU
 - (C) Video graphics
 - (D) All of these
- 341.** In a certain code. ROUNDS is written as RONUDS. How will PLEASE will be written in the same code:
- (A) L P A E S E
 - (B) P L A E S E
 - (C) L P A E E S
 - (D) P L A S E E
- 342.** Freedom of Speech
- (A) has been guaranteed by the constitution.
 - (B) has not been expressly guaranteed by the constitution
 - (C) has been given only to selected institutions.
 - (D) None of these
- 343.** A good communicator is the one who offers to his audience:
- (A) plentiful of information
 - (B) a good amount of statistics
 - (C) concise proof
 - (D) repetition of facts
- 344.** This Methodology Trains The Child To Search Facts, Rules And Principles Led By His Own Efforts, Organize The Set Of Knowledge Gained And Delineate General Rule. The Aforesaid Statement Is About Which Of The Following Methodology Of Teaching?
- (A) Montessori
 - (B) Kindergarten
 - (C) Heuristic
 - (D) Playway
- 345.** While Dealing With Juvenile Delinquents A Teacher Should
- (A) Play Them Filthy Jokes.
 - (B) Talks With Them Frankly And Guide And Channelize
 - (C) Complain To The Principal Against Them
 - (D) None Of These
- 346.** Which Of The Following Is A Disadvantage Of Teaching Machine?
- (A) The Insurance Of Attention
 - (B) Their Universal Use For Different Kinds Of Programmes
 - (C) The Tracking Of Errors
 - (D) All Of These
- 347.** The Greatest Important Cause Of Failure In The Beginning For A Teacher Lies In The Area Of :
- (A) Interpersonal Relationship
 - (B) Verbal Ability
 - (C) Knowledge Of The Teacher
 - (D) Light-Handling Of The Student
- 348.** The Best Way To Reacty To A Wrong Answer Given By A Student Is :
- (A) To Scold Him For Not Having Learnt The Lesson
 - (B) To Explain Why The Answer Is Wrong
 - (C) To Ask Another Student To Give The Correct Answer

- (D) To Ignore The Wrong Answer And Pass On The Next Question
- 349.** Which Of The Following Institutions Is Responsible For The Implementation Of Reforms In Teaching Profession?
 (A) University Grants Commission.
 (B) National Council For Teacher'S Education
 (C) National Council For Educational Research And Training
 (D) National Institute Of Educational Planning And Administration.
- 350.** A Serious Minded Teacher As A Rule:
 (A) Allows The Mistakes To Be Committed And Explains How To Minimise Those Mistakes
 (B) Never Allows Mistakes On The Part Of His Students
 (C) Takes All Precaution So That Students Never Commit Mistakes
 (D) Should Mildly Punish Students Who Commit Mistakes
- 351.** One Of Your Student Is Too Poor To Buy A Book. How Will You Help Him?
 (A) You Will Purchase The Book.
 (B) You Will Collect A Fund From Others For This Purpose.
 (C) You Will Provide The Books From Library.
 (D) You Will Request The Institute Administration To Make A Policy For Helping Such Students.
- 352.** Objective Type Questions Are Not Helpful In Testing
 (A) Student'S Knowledge Level Of Subject Matter.
 (B) Student'S Ability To Describe And Explain Things.
 (C) Student'S Ability Of Writing And Expression.
 (D) All Of The Above
- 353.** Which Of The Following Is Responsible For Uniformity In Curriculum At Higher Level In India?
 (A) University Grants Commission.
 (B) National Council For Educational Research And Training
 (C) Human Resource Development Ministry.
 (D) All India Council For Technical Education.
- 354.** The Function Of A Teacher Is In The Order Of :
 (A) Guiding The Child, Helping Him Towards Progress And Evaluation
 (B) Checking Homework, Guiding Him And Assigning Further Task
 (C) Both (A) And (B)
 (D) And (C)
 (E) Both (A) And (C)
 (F) None Of These
- 355.** Classroom Discipline Can Be Maintained Effectively By:
 (A) Knowing The Cause Of Indiscipline And Handling It With Stern Hand
 (B) Providing A Programme Which Is According To Need And Interest Of Pupils
 (C) By Giving Punishment For Even Smallest Sins
 (D) None Of These
- 356.** The first important step in teaching is
 (A) planning of representation of topic or subject.
 (B) organizing the background of students for the subject
 (C) organizing the material to be taught
 (D) knowing the background of students
- 357.** Kindergarten (KG) system of education is indebted to
 (A) Dewey
 (B) Froebel
 (C) Plato
 (D) Spencer

- 358.** Which of the following can be the effect of meteorite impact?
 (A) Massive earthquake
 (B) Dust in atmosphere
 (C) Widespread wildfire
 (D) All of these
- 359.** Central Soil Salinity Research Institute is situated at
 (A) Kasargod
 (B) Karnal
 (C) Gulmarg
 (D) Gwalior
- 360.** Which satellite channel uses the adline, Knowing is everything ?
 (A) BBC World
 (B) Star
 (C) Sony
 (D) Zee
- 361.** One of your colleagues is living in your locality but you have no affinity with him, the reason may be
 (A) his selfishness
 (B) his religious faith
 (C) his social rejection
 (D) his miserable behaviour and rural background
- 362.** A researcher wants to study the future of the Congress-I in India. For the study which tool is most appropriate for him?
 (A) Questionnaire
 (B) Schedule
 (C) interview
 (D) Rating scale
- 363.** Find the odd man out of following group?
 (A) JLMK
 (B) PRSQ
 (C) RUTS
 (D) NOPM
- 364.** The Test On The Basis Of Which A Teacher Takes Decision About The Students Is Known As
 (A) Performance Test
 (B) Institutional Test
 (C) Revision Test
 (D) Instructional Test
- 365.** In Your Institution, A Debate Test Would Be Held Shortly Then How Would You Support Your Students?
 (A) By Writing The Debate
 (B) You Would Tell Students How To Write A Debate
 (C) You Will Tell Students Where To Consult For Literature
 (D) None Of These
- 366.** Which Of The Following Is Wrongly Matched?
 (A) Froebel — Progressivism
 (B) Dewey — Pragmatism
 (C) Skinner — Gestalt
 (D) Herbart — Apperception
- 367.** How Can Students In A Class Be Made Attentive?
 (A) By Speaking Loudly In The Class
 (B) By Preparing Your Lecture Properly
 (C) By Creating Curiosity In Students
 (D) By Wearing Special Types Of Clothes
- 368.** A Teacher Can Get Important Place In Society If He
 (A) Performs The Role Of An Active Member The Political Party In Power
 (B) Is Scholar And In Power
 (C) Participates Actively In Social Activities
 (D) Performs His Responsibility Honestly

- 369.** If The Principal Of Your Institution Is Not Satisfied With Your Performance And Charge You With The Act Of Negligence Of Duties, How Would You Behave With Him?
- (A) You Would Take Revenge By Giving Physical And Agony To Him.
 (B) You Would Neglect Him.
 (C) You Would Take A Tough Stand Against The Changes.
 (D) You Would Keep Yourself Alert And Make His Efforts Unfruitful.
- 370.** Which Of The Following Can Be Termed As Most Import Task In Teaching Among The Given?
- (A) Directing Students In Development Pf Experiences.
 (B) Making Monthly Reports And Maintaining Records.
 (C) Making Assignments And Checking Worksheets.
 (D) All Of The Above
- 371.** If Your Own Son Is In Your Class. How Will You Behave With Your Students In Comparison To Your Son?
- (A) Just Like Your Own Son.
 (B) Equal Treatment Is Not Possible To All The Students.
 (C) Repressed Treatment.
 (D) It Is Better To Lend Them A Free Hand.
- 372.** The Criteria For Grading Should Be
- (A) The Material Is Covered In An Accurate Manner.
 (B) The Writing Communicates Clearly And Effectively.
 (C) Is There Any Originality In The Submitted Work.
 (D) All Of These.
- 373.** Verbal Guidance Is Least Effective In Teaching
- (A) Attitude
 (B) Concepts And Facts
 (C) Relationship
 (D) Skills
- 374.** The Adage Of Maintaining Good Relations With Others Is
- (A) Sycophancy
 (B) Kaleidoscopic Personality
 (C) Attractive Features And Mental Make Up
 (D) Control Over Emotion
- 375.** Which Is Most Favorable For Education?
- (A) Social Class
 (B) Social Mobility
 (C) Social Stratification
 (D) Caste
- 376.** Which Of The Following Is Most Important For Effective Learning In Classroom?
- (A) Teacher'S Ability To Create And Maintain Inappropriate Responses
 (B) Provide Immediate Feedback
 (C) Do Not Provide Unconstructive Comments For Evaluating Activities
 (D) All Of These
- 377.** Which Of The Following Is The Educational Implicatio Of The Of The Learning Process?
- (A) Memory
 (B) Interest
 (C) Curiosity And Level Of Aspiration Are Motivating Factors According To Berlyne.
 (D) All Of These
- 378.** Use Of Telecast Materials.
- (A) Enhances Concentration And Learning.

- (B) Reduces The Burden Of The Teacher.
 (C) Increases Retention Power.
 (D) All Of These
- 379.** Which One Of The Following Languages Can Be The Best Medium Of Instruction At Primary Level?
 (A) National Language(Hindi)International Language(English)
 (B) Regional Language
 (C) Mother Tongue
- 380.** All of The Following Are The Characteristic Features Of An Effective Teacher Except
 (A) Emphasis Upon Standards
 (B) Emphasizing Group Discussion For The Purpose Of Clarifying The Objectives
 (C) Emphasis Upon The Quick Control Of Problematic Situations.
 (D) Differential Treatment Meted Out To Students Of His Class.
- 381.** Which One Of The Following Should A Teacher Adopt In His Lecture In A Class?
 (A) Precise And Low Tone.
 (B) Elongated Tone.
 (C) Precise And High Tone.
 (D) Moderate Tone.
- 382.** Which Of The Following Is True About Micro Teaching?
 (A) It Is The Following With Video Recording Of Lessons.
 (B) It Is A Teacher Education Technique Allowing Teacheres To Apply Clearly Defined Teaching Goals.
 (C) It Is Scaled Down Teaching Encounters In Class Size And Class Time.
 (D) All Of These
- 383.** If Students Are Not Able To Follow Your Lectures What Will You Do First?
 (A) You Will Make Your Lecture More Easy.
 (B) You Will Try To Know The Cause And Find The Right Solution For That.
 (C) You Will Start Giving Examples To Them.
 (D) None Of These
- 384.** Who said that members of the same species are not alike?
 (A) Darwin
 (B) Herber
 (C) Best
 (D) Good
- 385.** Certificate for copy right waiver is generally given in
 (A) thesis writing
 (B) paper
 (C) article
 (D) books
- 386.** Logic of induction is very close to
 (A) logic of sampling
 (B) logic of observation
 (C) logic of controlled variables
 (D) None of these
- 387.** If Majority Of Students In Your Class Are Weak You Should
 (A) Not Care About Intelligent Students.
 (B) Keep Your Speed In Teaching Fast So That Students Compreshension Level May Increase.
 (C) Keep You Teaching Slow.
 (D) Keep Your Teaching Slow Along With Some Extra Guidance To Bright Pupils.
- 388.** The Professional Requirements Of A Teacher As Explained In The Unesco Publication Is /Are
 (A) Mastery Over The Subject And Competency For Teaching
 (B) Innovativeness In Approach And Teaching Strategies
 (C) Justice To The Profession
 (D) All Of The Above

- 389.** Some Students Are Weak In Studies. What Will Be Your Attitude Towards Them?
 (A) Strict
 (B) Lenient
 (C) Liberal
 (D) Lovable
- 390.** If A Teacher Is Not Able To Answer The Question Of A Pupil He Should
 (A) Say That He Will Answer After Consultation
 (B) Rebuke The Pupil
 (C) Say That Question Is Wrong
 (D) Feel Shy Of His Ignorance
- 391.** An Individual'S Ability To Learn Is
 (A) Acquired
 (B) Teachers
 (C) Elders
 (D) None Of These
- 392.** How Will You Demonstrate Your Impartial Behavior?
 (A) By Maintaining High Self Esteem And Egoistic Behaviour.
 (B) By Making Own Behaviour More Balanced And Fair.
 (C) By Assaulting A Teacher.
 (D) By Criticizing The Teacher Community.
- 393.** A Teacher Who Is Not Able To Draw The Attention Of His Studetns Should
 (A) Evaluate His Teaching Method And Improve It.
 (B) Resign From The Post.
 (C) Find Fault In His Pupils.
 (D) Start Dictating
- 394.** Of Great Importance In Determining The Amount Of Transference That Occurs In Learning Is The
 (A) IQ Of Teacher
 (B) Knowledge Of The Teacher
 (C) Use Of Appropriate Elements
 (D) Presence Of Identical Elements
- 395.** Democracy In The Classroom Is Best Reflected Through
 (A) Allowing Students Freedom To The Observance Of Classroom Rules And Regulations.
 (B) You Will Justify That Most Of The Female Students Are More Sincere Towards Their Studies Than Male Students.
 (C) You Will Justify To The Male Students That It Is Difficult For You Refuse The Request Made By Female Students
 (D) None Of These
- 396.** For Knowledge Lessons
 (A) Glover'S Scheme Is Used
 (B) Herbart'S Five-Stage System Is Used
 (C) Garry'S Scheme Is Used
 (D) None Of These
- 397.** What Can A Teacher Do To Develop Integrated Personalities Of His Pupil?
 (A) Children Should Be Encouraged And Helped To Set Themselves Well-Defined Goals And Objectives Which They Can Hope To Achieve.
 (B) They Should Be Helped To Build Their Self-Esteem To Develop A Sense Of Worthiness And Positive Ego Image.
 (C) Life In Schools Should Be So Planned That Children Are Able To Express Themselves Fully.
 (D) All Of These
- 398.** Of The Following Objectives Of An Elementary Music Programme The One Of Lowest Priority Is
 (A) To Expose Children To A Variety Of Musical Compositions.
 (B) To Prepare Children For Wise Use Of Leisure Time.

- (C) To Develop A Group Of Performers For Hiliday Assemblies.
 (D) To Provide Children With Emotion Outlets.
- 399.** A Backward Child Is A Slow Learner. He Does Not Respond Satisfactorily To The Ordinary School Curriculum And To The Usual Methods. The Causes Of This Phenomena Are
 (A) Poor Intellectual Ability And Low Intelligence
 (B) Physical Defects And Diseases
 (C) Emotional Disturbance
 (D) All Of The Above
- 400.** You Are A Teacher Of Literature. A Chapter Of A Book Deals With A Biography Of A Scientist And His Works. In This Situation, What Would You Do With Chapter?
 (A) You Would Ask The Students To Read Themselves.
 (B) You Would Request The Science Teachere, To Teach This Chapter To The Students.
 (C) You Would Consult Other Books Concerning With The Scientist And Then Teach The Lesson To Student.
 (D) Any One Of Them.
- 401.** While Delivering Lecture If There Is Some Disturbance In The Class, Then A Teacher Should
 (A) Keep Quiet For A While And Then Go On.
 (B) Not Bother Of What Is Happening In The Class.
 (C) Punish Those Causing Disturbance.
 (D) All Of These
- 402.** Which One Is Not The Objective Of Special Education?
 (A) To Pursue Those Curricular Matters That Strategically Determine Effective Living For Specific Type Of Handicapped Children.
 (B) To Develop Motivational Patterns In The Handicapped That Will Produce Achievements.
 (C) To Develop Realistic Self-Concept In Handicapped Children.
 (D) All Of These
- 403.** The Introduction Of Career Courses In Schools And Colleges Aims At
 (A) Developing The Ability To Make The Intelligent Choice Of Jobs.
 (B) Providing Professional Knowledge To Students.
 (C) Increasing G.K. In Students.
 (D) All Of The Above
- 404.** UGC was established in
 (A) 1966
 (B) 1953
 (C) 1946
 (D) 1986
- 405.** President can be removed on the charges of violating the constitution by
 (A) No-confidence motion
 (B) Impeachment
 (C) Electoral College of legislative Assemblies
 (D) Prime Minister
- 406.** The time of gap between two sessions of Parliament is not more than
 (A) 180 days
 (B) 120 days
 (C) 150 days
 (D) 90days
- 407.** Indian Institute of Natural Resins and Gums (Formerly Indian Lac Research Institute) is at _____
 (A) Lucknow
 (B) Kolkata
 (C) Ranchi
 (D) New Delhi

- 408.** Discussion Method can be used when :
- (A) The topic is very difficult
 - (B) The topic is easy
 - (C) The topic is difficult
 - (D) All of the above
- 409.** which of the following is a teaching aid?
- (A) Working Model of Wind Mill
 - (B) Tape Recorder
 - (C) 16 mm Film Projector
 - (D) All of the above
- 410.** The main aim of teaching is :
- (A) To develop only reasoning
 - (B) To develop only thinking
 - (C) Both (a) and (b)
 - (D) To give information
- 411.** The quality of teaching is reflected :
- (A) By the attendance of students in the class
 - (B) By the pass percentage of students
 - (C) BY the quality of questions asked by students
 - (D) By the duration of silence maintained in the class
- 412.** The present annual examination system:
- (A) promotes rote learning
 - (B) does not promote good study habits
 - (C) does not encourage students to be regular in class
 - (D) All of the above
- 413.** A college wants to give training in use of Statistical Package for Social Sciences (SPSS) to researchers. For this the college should organise :
- (A) Conference
 - (B) Seminar
 - (C) Workshop
 - (D) Lecture
- 414.** Which of the following is NOT the characteristic of a research ?
- (A) Research is systematic
 - (B) Research is not a process
 - (C) Research is problem oriented
 - (D) Research is not passive
- 415.** Which of the following statement is correct ?
- (A) Discoveries are researches
 - (B) Researches lead to discovery
 - (C) Invention and Reasearch are related
 - (D) None of the above
- 416.** Which of the following statement is correct ?
- (A) In research, objectives can be worded in question form.
 - (B) In research, objectives can be worded in statement form.
 - (C) Objectives are to be stated in Chapter I of the Thesis
 - (D) All of the above
- 417.** If a girl student requests you to collect her posts at your address what would you like to do in this case?
- (A) You would not give permission as it is against your own principles
 - (B) You will never allow her suspecting a foul game
 - (C) As a teacher you will allow her
 - (D) You will permit her because you may get in touch with her.
- 418.** If a student is constantly rubbing his eyes and is unattentive during blackboard work, he is having
- (A) adjustment problem
 - (B) hearing problem
 - (C) visual problem
 - (D) All of the above

- 419.** The professional requirement of a teacher as explained in the UNESCO publication is/are
 (A) mastery over the subject and competency for teaching
 (B) innovativeness in approach and teaching strategies
 (C) justice to the profession
 (D) All of the above
- 420.** Kindergarten (KG) system of education is indebted to
 (A) Dewey
 (B) Froebel
 (C) Plato
 (D) Spencer
- 421.** which of the following must be the qualities of teacher except?
 (A) Patience and tolerance
 (B) Sweet, polite and clear voice
 (C) Superstitions
 (D) Good communication skill
- 422.** If in a reserach independent variables cannot be manipulated then it is known as
 (A) Experimental Research
 (B) Non-experimental Research
 (C) Pure or Fundamental Research
 (D) Exploratory Research
- 423.** Which of the following is not a characteristic of research ?
 (A) Systematic
 (B) Objective
 (C) Logical
 (D) Perspective
- 424.** Which of the following is not a part of Information?
 (A) logical
 (B) formal
 (C) impersonal
 (D) perception
- 425.** Bright Light in classroom is a type of —
 — Barrier.
 (A) physical distraction
 (B) emotional distraction
 (C) channel
 (D) none of these
- 426.** Close Circuit Television CCT is useful
 (A) only for a restricted audience residing at a particular place.
 (B) for large group communication
 (C) only for poor students of the class
 (D) None of these
- 427.** All are the examples of the media of two way communication except
 (A) public meeting
 (B) padyatra
 (C) street plays
 (D) procession and rallies
- 428.** Genuine : Authentic : : Mirage : ?
 (A) Illusion
 (B) Image
 (C) Hideout
 (D) Reflection
- 429.** Find out the number that does not belong to the group for lack of common property. 169, 289, 361, 442, 484, 729.
 (A) 484
 (B) 442
 (C) 361
 (D) 289
- 430.** 1, 1, 2, 6, 24, ?, 720
 (A) 100
 (B) 104
 (C) 108
 (D) 120
- 431.** Find the odd one out
 (A) Sucheta Kriplani
 (B) J. Jayalathitha
 (C) Padmaja Naidu
 (D) Mayawati

- 432.** If in a certain code, BEAT is coded as GIDV What is the code of SOUP?
 (A) XSXR
 (B) XSSR
 (C) XXXR
 (D) WXYR
- 433.** All students are not geniuses concludes that
 (A) many students are not genius
 (B) all geniuses are students
 (C) no student is genius
 (D) None of these
- 434.** World's first man in space was
 (A) Neil Armstrong
 (B) Yuri Gagarin
 (C) Kalpna Chawla
 (D) Edwin Eldrin
- 435.** Using antivirus software is a
 (A) detective measure
 (B) preventive measure
 (C) corrective measure
 (D) All of the above
- 436.** Data in a computer can be represented as
 (A) hexadecimal
 (B) decimal
 (C) binary
 (D) All of the above
- 437.** which of the following is used to append a digital signature?
 (A) Public key
 (B) Private key
 (C) Digital key
 (D) none of these
- 438.** The area covered by forest in India is about
 (A) 46
 (B) 33
 (C) 23
 (D) 21
- 439.** Ozone layer depletion is mainly due to
 (A) CFC
 (B) carbon monoxide
 (C) carbon dioxide
 (D) methane
- 440.** which of the following is long term effect (tertiary effect) of flooding?
 (A) Increase in corruption
 (B) Destruction of wild life habitat
 (C) Sediment deposition
 (D) All of the above
- 441.** Benefits of computer are that
 (A) they are accurate
 (B) they are intelligent
 (C) they are machine
 (D) None of these
- 442.** Fire balls are
 (A) very bright meteors
 (B) volcanic eruption
 (C) forest fire
 (D) None of these
- 443.** Nagarjuna Sagar dam is situated on river
 (A) Tungabhadra
 (B) Cauvery
 (C) Krishna
 (D) Godavari
- 444.** Which of the following is true about Modern Annual Examination System?
 (A) It Encourages Attaining Knowledge By Cramming.
 (B) It Doesn't Encourage The Habit Of Regular Study.
 (C) It Doesn't Encourage Students To Attain Their Classes Regularly.
 (D) All Of These

- 445.** Personalized system of education :
- (A) Doesn't Inculcate A Feeling Of Socialization In Students
 - (B) Doesn't Inculcate A Feeling Of Competition
 - (C) Leads To Wastage Of Time And Energy
 - (D) All Of These
- 446.** The most important challenge before a teacher is :
- (A) To Maintain Discipline In The Classroom
 - (B) To Make Students Do Their Homework
 - (C) To Prepare Question Paper
 - (D) To Make Teaching Learning Process Enjoyable
- 447.** If you are irritated and show rashness because of the inadequate behavior of another teachers , what do you think about your own behavior?
- (A) It Is Justified Because Behaviors Are Echo Lim.
 - (B) Your Behavior Is Not Good Because Elders Have The Right To Behave You In This Way.
 - (C) Your Behavior Is Also A Sign Of Maladjustment And So Try To Control Yourself When You Are Maltreated.
 - (D) All Of These
- 448.** Teacher's professionalism means:
- (A) The Extent To Which A Teacher Subscribes To A Professional Code
 - (B) A Teacher Has To Teach For The Sake Of Getting Salaries
 - (C) A Teacher Must Have Completed Professional Teachers Training Course Before His Appointment
 - (D) All Of These
- 449.** Which one of the most fundamental of the guidance activities should be executed first?
- (A) Determination Of Objectives
 - (B) Selection Of Learning Activities
 - (C) Determination Of Learning Process
 - (D) Selection Of Curriculum
- 450.** A teacher should keep his voice in the class
- (A) High Enough To Be Heard By Every Student Clearly
 - (B) Loud, So That Every One Can Hear Clearly
 - (C) Moderate
 - (D) Sometime Low And Some Time High
- 451.** Which of the following is/are true about teaching ?
- (A) The Analysis And Assessment Of Teaching Provide Feedback For Further Improvement In Teaching Method.
 - (B) It Is Highly Dominated By Communication Skill.
 - (C) It Is A Process Not An Act.
 - (D) All Of These
- 452.** Which of the following is/are true about teacher/teaching?
- (A) Teacher Should Have Control Over The Students To Maintain Peace And Order In The Class.
 - (B) Teaching Should Be Pupil Centered Rather Than Subject Centered.
 - (C) Teacher Should Arouse Interest Among Students About The Subject
 - (D) All Of These
- 453.** Which of the following is true about teaching/teacher?
- (A) Teacher Should Work As A Leader In The Class.
 - (B) Teacher Should Make A Lesson Plan Before Presenting Lesson In The Class.

- (C) Teacher Should Maintain A Democratic Atmosphere In The Class
(D) All Of These
- 454.** A teacher learns maximum from
(A) Principal
(B) Books
(C) Students
(D) None of these
- 455.** If majority of students in your class are weak you should
(A) Not care about intelligent students.
(B) Keep your speed in teaching fast so that students comprehension level may increase.
(C) Keep you teaching slow.
(D) Keep your teaching slow along with some extra guidance to bright pupils.
- 456.** The first important step in teaching is
(A) planning of representation of topic or subject.
(B) organizing the background of students for the subject
(C) organizing the material to be taught
(D) knowing the background of students
- 457.** Failure of students in examination, it may be the fault of
(A) teacher
(B) principal
(C) students themselves
(D) both (a)and (c)
- 458.** Research is born out of
(A) human curiosity
(B) human requirements
(C) natural incidents
(D) None of these
- 459.** Which of the following is the first step of research?
(A) Identification of subject
(B) Identification of nature of problem
(C) Both (a) and (b)
(D) None of these
- 460.** The biochemical processes taking place in the body is known as
(A) Catabolism
(B) Metabolism
(C) Anabolism
(D) None of above
- 461.** Hybrid computer is a combination of
(A) Calculator and Laptop
(B) Laptop and Abacus
(C) Analog Computer and Digital Computer
(D) Punch Card and Analog Computer
- 462.** The final result of a study will be more accurate if the sample drawn is
(A) taken randomly
(B) fixed by quota
(C) representative to the population
(D) purposive
- 463.** Noise is known as
(A) transmitting barrier
(B) receiving barrier
(C) sender barrier
(D) none of these
- 464.** Teachers should study the educational philosophy because
(A) They Do Not Know It.
(B) They Do Not Have Their Won Philosophy
(C) Philosophy Is The Backbone Of All Disciplines
(D) They May Improve Their Work By Clarifying Their Own Philosophy

- 465.** Why should you prefer teaching to other profession?
 (A) For The Service Of Humanity.
 (B) For Love Of Teaching
 (C) For Love To Young (Youth)
 (D) For Mastery Over The Subject Of Teaching
- 466.** The best way by a teacher to introduce a new subject by
 (A) Giving A Broad Outline Of The Subject
 (B) Relating It To Daily Life Situation
 (C) Relating It To Previously Studied Subject Or Course Material.
 (D) Any Of These
- 467.** As a teacher you should not demand your pupils which is beyond their stage of growth. If you do so, it only causes
 (A) Frustrations
 (B) Frustrations, Heighten Tension And Nervousness
 (C) Encouragement For More Learning
 (D) Both (
 (E) And (C)
- 468.** A teacher generally asks questions to his pupils during the lecture, why?
 (A) Are Students Listening The Lecture Attentively?
 (B) To Know, Which Student Is Brilliant One?
 (C) To Know Whether The Students Are Understanding The Lecture Or Not.
 (D) To Help The Students
- 469.** A competent teacher must have a sound knowledge in right order
 (A) Practive, Concept, Theory And Research
 (B) Theory, Research, Concept And Practice
 (C) Concept, Theory, Practice And Research
 (D) Research, Practice, Concept And Theory
- 470.** In the final analysis, teaching must be thought of mainly as a process of
 (A) Asking Questions And Evaluating The Learning
 (B) Directing The Activities Of Pupils
 (C) Hearing Recitation Of Pupils
 (D) All Of These
- 471.** A teacher commands prestige, authority esteem and respect. He should make use of it through suggestion. He should not try to command respect through
 (A) Scholarship
 (B) Punishing And Creating Revolting Situation
 (C) Experience
 (D) Tact
- 472.** A teacher is successful only if he
 (A) Knows His Subject Thoroughly Well
 (B) Produces Cent Per Cent Result
 (C) Is Approachable
 (D) Publishes Papers In Journals Of Repute
- 473.** The major responsibility with which the school personnel have been entrusted is that
 (A) It Harmonizes The Child'S Need And Demands Of The Society Both
 (B) It Makes The Child Able To Get Job
 (C) It Prepares The School Programme According To The Need Of The Child
 (D) All Of These
- 474.** One of your students wants to share his problems with you. He visits your house for the same. In such a condition ou should

- (A) Suggest Him To Escape From His Family.
 (B) Extend Necessary Co-Operation And Boost His Morale.
 (C) Contact The Students Parent And Solve The Problem.
 (D) None Of These
- 475.** For better interaction with the students, the teachers objective should be the
 (A) Equitable Distribution Of Response Time
 (B) Proximity
 (C) Affirm Or Correct Student Performance
 (D) All Of These
- 476.** Which of the following is quality of a teacher?
 (A) He Presenting The Subject Matter In An Effective Manner With Clear Explaining Leading To Better Understanding Of The Matter.
 (B) He Should Be Trained To Various Teaching Methodologies.
 (C) He Should Know The Child Psychology
 (D) All Of These
- 477.** In ancient education system, teachers applied some psychological principles in education especially to young child from pre-school age to adolescence. They recognize the role of
 (A) Gurukul Type Of Education
 (B) Convent System Of Schooling
 (C) Sense And Perception In Teaching And Learning
 (D) All Of These
- 478.** Recreational Reading should be
 (A) Reserved For The School Library Period.
 (B) Assigned As Homework.
 (C) A Responsibility Of The Home Not The School
 (D) An Integral Part Of Language Art Curriculum.
- 479.** Which characteristic from the following is least concerned with a teacher?
 (A) Command Over Subject Matter.
 (B) Respect From College Management
 (C) Good Rapport With The Students .
 (D) Effective Verbal Communication.
- 480.** Which of the following statements doesn't suit a teacher? The teacher is
 (A) Really Interested In Students
 (B) Able To Direct And Discipline Students.
 (C) Reluctant To Adapt Himself To New Situation
 (D) Enthusiastic About The Work That Teachers Do.
- 481.** Who can be a good teacher ? One
 (A) Whose Students Do Not Need To Ask Questions
 (B) Who Answers All The Questions Asked By Students
 (C) Who Never Encourages Children To Known Something Not In Curriculum.
 (D) Who Always Tells His/Her Students That From Where They Can Get Answers To Their Queries.
- 482.** Meaningful learning takes place when
 (A) Students Are Interested In Topic Taught.
 (B) Explanations Are Given Within Reach Of Students.
 (C) The New Content Being Taught Is Related To The Previous Knowledge Of The Student.
 (D) Students Raise Questions And Get Them Clarified.

- 483.** Teachers use teaching aids for
- (A) Making Teaching Interesting.
 - (B) Making Teaching With Understanding Level Of Students
 - (C) Making Student Attentive.
 - (D) The Sake Of Its Use.
- 484.** How a teacher should behave with the students
- (A) General
 - (B) Father
 - (C) Friend
 - (D) Leader
- 485.** If a girl student requests you to collect her posts at your address what would you like to do in this case?
- (A) You Would Not Give Permission As It Is Against Your Own Principles
 - (B) You Will Never Allow Her Suspecting A Foul Game
 - (C) As A Teacher You Will Allow Her
 - (D) You Will Permit Her Because You May Get In Touch With Her.
- 486.** The most important task is teaching is
- (A) Making Monthly Reports And Maintaining Records
 - (B) Making Assignments And Hearing Recitations
 - (C) Directing Students In The Development Of Experience
 - (D) None Of These
- 487.** The most accurate statement about teaching machines is that
- (A) B.F.Skinner Began The Movement For Their Use.
 - (B) They Were Designed As An Economy Measure To Replace Teachers.
 - (C) They Are Not As Efficient As Teachers In Reinforcing Responses
 - (D) They Can Be Used For All Learning Programmes
- 488.** The Dalton Scheme of Education is useful for which one of the following?
- (A) For infants
 - (B) For little children
 - (C) For older children
 - (D) For all of these
- 489.** Why should a student not be punished severely?
- (A) He May Quarrel With A Teacher.
 - (B) He May Leave The School And Join Another
 - (C) His Parent May Quarrel With The Teacher.
 - (D) The Student May Develop A Negative Attitude Towards His Studies, Teacher And School.
- 490.** The term 'least restrictive environment' refers to the education of the
- (A) Handicapped
 - (B) Gifted
 - (C) Early Childhood Youngsters
 - (D) Retarded
- 491.** According to Dewry, education is a :
- (A) Social Need
 - (B) Personal Need
 - (C) Psychological Need
 - (D) Theoretical Need
- 492.** The teaching is not thought as a process of
- (A) Directing The Activities Of People.
 - (B) Listening The Recitation Of Pupils.
 - (C) Indoctrinating Adult Ideas To Young People
 - (D) None Of These
- 493.** The major objective of education is:
- (A) Reforming The Society
 - (B) Making Students Disciplined
 - (C) Developing Inherent Abilities/Powers Of Students
 - (D) Making Students Followers Of Teachers

- 494.** Each child grows in its own unique way. The wide individual differences are caused by
- (A) Heredity
 - (B) Endowment
 - (C) Environmental Influences
 - (D) All Of These
- 495.** All of the following are advantages of teaching machines except
- (A) The Control Of Cheating
 - (B) Tracking Of Errors
 - (C) The Insurance Of Attention
 - (D) Their Universal Use For Different Kinds Of Programmes.
- 496.** For formulating the curriculum, which factor is most important?
- (A) Teachers Ability
 - (B) Children'S Capabilities And Needs
 - (C) National Ideology
 - (D) Social And Cultural Ideals
- 497.** There are so many definitions of learning. Which of the following is most adequate?
- (A) The Modification Of Behaviour
 - (B) The Development Of Skills
 - (C) The Acquisition And Organisations Of Knowledge
 - (D) All Of These
- 498.** Which of the following is meant of information collection?
- (A) Schedule
 - (B) Report
 - (C) Plan
 - (D) Scope