

B.P.Ed. Examination, 2018
Semester-IV
Physical Education
Course: CC-402
(Kinesiology and Biomechanics)

Time – 3 Hours

Full Marks – 70

Questions are of value as indicated in the margin
Answer one question from each unit

Unit-I

1. Explain the need and importance of Kinesiology and Sports Biomechanics for athletes and coaches. 15

Or

What is equilibrium? Illustrate equilibrium in sports movements. Describe different anatomical terminologies associated with the direction of the human body. 1+5+4+5=15

Unit II

2. Classify voluntary muscles according to their shapes and describe different types of muscular contractions with examples. 15

Or

What is Posture? Write the importance of good posture and describe the factors that affect the posture of human body. 2+6+7=15

Unit-III

3. Define force. Discuss the principles of application of force. Justify that force is essential for the change of state of a body. 2+5+8=15

Or

What is a Projectile? Mention different parameters of projectile and explain the factors that determine the horizontal distance travelled by a projectile. 3+12=15

Unit-IV

4. Write short notes on any two of the following: 7.5x2=15
(i) Linear Kinematics (ii) Angular Kinematics (iii) Types of Friction (iv) Moment of Inertia in sports

Unit-V

5. Choose the correct answer: 10x1=10
- (a) "Kinesis" is a – (i) Greek word (ii) French word (iii) English word (iv) Japanese word
- (b) Torque is a – (i) Linear force (ii) Angular force (iii) Rectilinear force (iv) None
- (c) Angular Distance and Displacement shall be the same up to (i) 180° (ii) 210° (iii) 270° (iv) 360°
- (d) Magnus effect is the result of – (i) Centric force (ii) Off centric force (iii) both (iv) None
- (e) Static friction is more than – (i) Rolling friction (ii) Sliding friction (iii) Both (iv) None
- (f) An object's mass in the moon will be – (i) $1/6^{\text{th}}$ (ii) $1/4^{\text{th}}$ (iii) Same (iv) double-of earth
- (g) Moment of Inertia is the Inertia of an object which is in – (i) rest (ii) linear motion (iii) Rotation (iv) None
- (h) Muscle generates Maximum force when angle of pull is – (i) 30° (ii) 90° (iii) 60° (iv) 100°
- (i) Rectus femoris is a – (i) Unipennate (ii) Bipennate (iii) Multipennate (iv) Fusiform-muscle
- (j) In Knee flexion hamstring group of muscle acts as–(i) Agonist (ii) Antagonist (iii) Fixators (iv) None