B.Sc.(Ag.) Honours Semester– I Examination, 2014

Course No. : ACB –111 (Biochemistry)

(New Syllabus)

Signature of Centre Superintendent

Roll No.: (in figure)_____ (in words) _____

Student Index No._____ Regn. No._____ of _____

Time : Two hours **Full marks : 40**

Questions are of value as indicated in the margin

Part–I

(Objective and Short Answer Type)
(Use only ball point pen)

Time : 20 minutes **Full marks : 10**

Note : 1. Answer in question paper itself.
2. Striking, rewriting and overwriting are not allowed in the objective type questions.

1. Write True (T) or False (F) in respect of the following statements: 5×0.5=2.5

a) Lipids are insoluble in water ☐
b) Uracil is present in DNA ☐
c) Alkaloids contain nitrogen ☐
d) Disaccharides contain one peptide bond ☐
e) Maltose is a disaccharide made of glucose and galactose ☐

2. Fill up the blanks with most appropriate words: 5×0.5=2.5

a) Structural and Functional unit of life is called as _____.
b) Polyhydroxy aldehyde or ketones are called as _____.
c) Nucleoside is made of ribose sugar and _____.
d) In amino acid metabolism, removal of amino group from amino acids as ammonia is called as _____.
e) Fatty acid biosynthesis occurs in cytoplasm and Fatty acid oxidation occurs in _____.

3. Tick (√) the correct among alternatives: 10×0.5=5

(a) The following is the correct order of the enzyme classes
(i) Oxidoreductases, hydrolases, lyases, transferases, ligases, isomerases
(ii) Oxidoreductases, transferases, lyases, hydrolases, isomerases, ligases
(iii) Oxidoreductases, transferases, hydrolases, lyases, isomerases, ligases
(iv) Oxidoreductases, hydrolases, transferases, lyases, ligases, isomerases

(b) A nucleotide is composed of the following except
(i) Nitrogen base (b) Pentose sugar (c) Phosphate (d) Glycerol

c) The following monosaccharides contain 6 carbons except
(i) Glucose (b) Mannose (c) Galactose (d) Xylulose

d) The end product of aerobic glycolysis

(i) Pyruvate (ii) Acetyl CoA (iii) Lactate (iv) Lactose

e) The basic structural unit of Terpene is

(i) isoprene (ii) isopropylene (iii) isobutylene (iv) styrene

f) Km value indicates the affinity between

(i) Enzyme & Coenzyme (ii) Enzyme & Substrate (iii) Coenzyme & Substrate

(iv) Enzyme & Cofactor

g) Chargaff's rule states that in DNA structure the following molar equivalences exist

(i) A=T and G=C (ii) A=G and C=T (iii) A=C and G=T (iv) A and T=deoxyribose

h) The excretory end product of protein (amino acid) metabolism in human

(i) Ammonia (ii) Urea (iii) uric acid (iv) Allantoin

i) A decapeptide is made up of

(i) 10 amino acids with 9 peptide bonds

(ii) 11 amino acids with 10 peptide bonds

(iii) 10 amino acids with 10 peptide bonds

(iv) 9 amino acids with 10 peptide bonds

j) The Final common oxidative pathway for the food stuffs

(i) Glycolysis (ii) HMP shunt (iii) Citric acid cycle (iv) β-oxidation

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Part–II

(Descriptive Type)

Time : 100 Minutes **Full marks : 30**

Questions are of value as indicated in the margin.

Answer ***any four*** questions from the following.

4. Describe the enzyme classification with suitable examples. 7.5

5. Write briefly on citric acid cycle. 7.5

6. Write an account on structure of DNA. 7.5

7. Explain β-oxidation of fatty acids. 7.5

8. Describe the light reaction of photosynthesis. 7.5

9. Write answers to the following questions: 3×2.5=7.5
   (a) Oxidative phosphorylation
   (b) Bio-diesel
   (c) Structure of plant cell wall.