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63 (FY)SEM-3/MAJ/ZOOMAJ2014

2025

ZOOLOGY

Paper : ZOOMAJ2014

(Basics of Biochemistry)

Full Marks : 50

Pass Marks : 20

Time : Two hours

The figures in the margin indicate full marks for the questions.

1. Choose the correct answer : $1 \times 5 = 5$
- (a) The most common monosaccharides present in the nucleus are
- (i) Trioses
 - (ii) Tetraoses
 - (iii) Pentoses
 - (iv) Hexoses

- (b) The most diverse molecules in a cell are
- (i) Mineral Salts
 - (ii) Lipids
 - (iii) Proteins
 - (iv) Carbohydrates
- (c) Which of the following is a fibrous protein ?
- (i) Collagen
 - (ii) Globulin
 - (iii) Haemoglobin
 - (iv) Hordein
- (d) "Lock and Key" hypothesis of enzyme action was given by
- (i) Fischer
 - (ii) Koshland
 - (iii) Buchner
 - (iv) Kuhne
- (e) Which one is a non-reducing commercial sugar ?
- (i) Glucose
 - (ii) Sucrose
 - (iii) Fructose
 - (iv) Lactose

2. Answer the following questions : **(any five)**
2×5=10

- (a) What is satellite DNA ?
- (b) What are ribozymes ?
- (c) Distinguish between glycogenesis and glycogenolysis.
- (d) Draw the molecular structure of glycine.
- (e) What are glycolipids? Give examples.
- (f) Why are the enzymes called the biocatalysts ?
- (g) Write the differences between glycogen and starch.

3. Answer the following questions : **(any five)**
5×5=25

- (a) Describe the different types of phospholipid with examples. 3+2=5
- (b) Describe the functions of polysaccharides.

- (c) Write the differences between DNA and RNA.
- (d) What are different classes of enzymes according to Enzyme Nomenclature Recommendations (1978) of IUB?
- (e) Write the biological significance of protein.
- (f) Give the roles of cholesterol in the body and how it is harmful.
- (g) Write the roles of inhibitors in enzyme action.
- (h) Give the differences between oligosaccharides and monosaccharides.

4. Answer **any one** of the following: $10 \times 1 = 10$

- (a) Write the distinguishes between primary, secondary and tertiary structure of protein. Give *one* example of each. $9 + 1 = 10$
- (b) Write a note on the compositions and functions of the nucleotides. $5 + 5 = 10$