

This question paper contains 4 printed pages]

16/12/19 M

Roll No.

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|

S. No. of Question Paper : 7515

Unique Paper Code : 32231303

J

Name of the Paper : Fundamentals of Biochemistry

Name of the Course : B.Sc. (Hons.) Zoology

Semester : III

Duration : 3 Hours

Maximum Marks : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt five questions in all, including Q. No. 1 which is compulsory.

Attempt various parts of a question at one place only.

Draw well labelled diagram wherever necessary.

1. (A) Define :

1×5

(1) Peptide bond

(2) Amphipathy

(3) Epimers

(4) Nucleoside

(5) Plasmalogens.

P.T.O.

(B) Differentiate between :

2×5

- (1) Reducing and Non-Reducing Sugars
- (2) Phi and Psi angle
- (3) Isoenzymes and Coenzymes
- (4) Alpha helix and Beta pleated sheet structure of protein
- (5) B and Z DNA.

(C) Give the structures of the following :

1×5

- (1) Proline
- (2) Phosphatidyl Serine
- (3) Sucrose
- (4) Chondroitin sulphate
- (5) Adenine.

(D) Fill in the blanks :

1×4

- (1) Repeated nucleotide sequence.....the chances of its renaturation.
- (2) Enzymes speed up reactions by..... activation energy.
- (3) Auto-oxidation of lipids exposed to oxygen results in
- (4) An increase in side chain alkyl groups numbers increases the.....of the amino acids.

(E) Give contributions of the following :

1×3

- (1) Watson and Crick
- (2) Linus Pauling
- (3) Fredrick Sanger.

2. (a) Describe various types of secondary structure of protein taking suitable examples. 8
- (b) Justify the statement that information of protein folding resides within the sequence of amino acids. 4
3. (a) Elucidate the Michaelis-Menten kinetics for a one enzyme-one substrate reaction. 8
- (b) With the help of well labelled bond angles and bond lengths, diagrammatically explain that peptide bond is rigid and coplanar. 4
4. (a) Classify enzymes on the basis of type of reaction catalyzed (International Classification of Enzymes). 4
- (b) What are different types of DNA ? Briefly discuss different properties of various types of DNA. 8
5. (a) Describe the salient features of Clover leaf model of t-RNA. 4
- (b) Give a detailed account of physiologically important carbohydrates. 8

6. (a) With the help of structures, classify phospholipids. 8
 (b) Briefly discuss about allosteric enzymes. 4
7. Write short notes on any *three* of the following : 3×4
 (a) Cot Curves
 (b) Glycolipids
 (c) Mechanism of enzyme action
 (d) Protein Denaturation
 (e) Double reciprocal plot.