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Total No. of Pages : 02

Total No. of Questions : 09

M.Sc.(Chemistry) (2015 to 2017) (Sem.-1)

BASIC BIOLOGICAL CHEMISTRY

Subject Code : MSCH-103

Paper ID : [A2707]

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions in all, ONE From each UNIT.
2. Question No. 1 is compulsory.

Q1 Answer briefly :

- a) What is carboxypeptidase?
- b) What kind of information the Ramachandran plot provides?
- c) What are the functions of biological effectors?
- d) What are the effects of temperature on proteins?
- e) What is the biological importance of the titration of amino acids?
- f) Why enzymes are so specific in nature?
- g) What is saturation kinetics?
- h) What are zymogens? Give suitable example.
- i) Define cytochromes.
- j) Discuss the functions of lipoic acid in metabolic reactions. (2×10)

UNIT-I

- Q2 a) Discuss all the strong and weak interactions in proteins and their significance. (10)
- b) What are the functions of phospholipids? Discuss their chemistry in detail. (10)
- Q3 a) Discuss the structures and properties of the structural polysaccharides. (10)
- b) Discuss the structure and function of hemoglobin in detail. (10)

UNIT-II

- Q4 a) Classify enzyme inhibitors based on their mechanism of action. (10)
- b) What do you understand by isozymes? Discuss their biological importance. (6)
- c) Classify enzymes. Discuss I.U.B.M.B. system of nomenclature of enzymes. (4)
- Q5 a) Explain Michaelis-Menten model in detail. State the relation between catalytic efficiency and K_M . (12)
- b) Write a short note on mechanism of lysozyme. (8)

UNIT-III

- Q6 Give a descriptive account of nicotinamide adenine dinucleotides and riboflavin nucleotides and discuss their biological importance. (20)
- Q7 Write short notes on structure and function of :
- | | | |
|---------------------------|--------------------------|---------|
| a) Nucleoside diphosphate | b) Pyridoxal phosphate | |
| c) Coenzyme-A | d) Tetra hydrofolic acid | (5 × 4) |

UNIT-IV

- Q8 a) Discuss the Krebs cycle in detail. (10)
- b) Explain all the steps which are involved in glycolysis. (10)
- Q9 a) Explain the mechanisms of oxidative phosphorylation. (10)
- b) Discuss the electron transport mechanism in detail. (10)