

Roll No.

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J-3192[S-1048]

[2037]

M.Sc. (BI) (Semester - 2nd)

BIOCHEMISTRY - II (M.Sc. (BI) - 202)

Time : 03 Hours

Maximum Marks : 75

Instruction to Candidates:

- 1) Section - A is **compulsory**.
- 2) Attempt any **Nine** questions from Section - B.

Section - A

Q1)

(15 × 2 = 30)

- a) Name different elements contained by proteins. What is the approximate percentage of nitrogen in proteins.
- b) What is the significance of ionic bonds and disulphide bond in spatial structure of proteins.
- c) What do you understand by neutral monosaccharides.
- d) What is the relationship between vitamins and co-enzymes.
- e) What is the role of α - amylase in carbohydrate metabolism.
- f) What is the difference between starch and cellulose.
- g) Compare the function of reductants and oxidants in fatty acid synthesis.
- h) What is the importance of racemization in protein metabolism.
- i) Define transcription in relation to RNA synthesis.
- j) What is the difference between oligopeptides and polypeptides.
- k) Describe various factors affecting denaturation of proteins.
- l) What are biomolecules.
- m) List various physical techniques to study chemistry of proteins.
- n) What do you understand by storage proteins.
- o) Express how metals act as co-enzymes.

P.T.O.

Section - B

(9 × 5 = 45)

- Q2)** Describe the structure of different hydroxy amino acids.
- Q3)** Describe the chemical structure of starch and cellulose.
- Q4)** What do you understand by cofactors. Describe role of metal ions and prosthetic groups in the catalytic action of enzymes.
- Q5)** Define glycolysis. Indicate the main characteristics of various glycolytic reactions.
- Q6)** Describe the difference between oxidative and destructing deamination.
- Q7)** List steps involved in oxidation of fatty acids. Explain with the help of diagram the activation of fatty acids by acyl-coenzyme A-synthetase.
- Q8)** Discuss the fundamental mechanism of biosynthesis of DNA.
- Q9)** Describe the use of chromatography in aminoacid analysis.
- Q10)** Discuss spatial properties of the peptide bond.
- Q11)** What is the relation of structure of proteins on the properties of proteins.
- Q12)** With suitable examples explain the importance and application of biochemistry in food science.
- Q13)** Differentiate between denatured proteins and conjugated proteins.

