

2025

M.Sc. 1st Semester Examination

BIOCHEMISTRY

Paper : BICC401X1

(Chemistry of Biomolecules)

Full Marks : 25

Time : One Hour

The figures in the margin indicate full marks.

Candidates are required to give their answers

in their own words as far as practicable.

Group - A

Answer any *two* questions : $2 \times 2 = 4$

1. What do you mean by glycosidic bond?
2. Draw the structure of one aliphatic amino acid and one aromatic amino acid.
3. What is the role of ascorbic acid in Collagen formation?
4. What is informosome?

Group - B

Answer any *two* questions : $4 \times 2 = 8$

5. What do you mean by mutarotation? Why carbohydrate starts with at least 3-carbon compound? $2+2$

P.T.O.

(2)

6. Draw the peptide bond formation between two amino acids. Briefly describe the secondary structure of a protein. 2+2
7. Explain the function of lipid as signalling molecule. What are the different types of lipoprotein? 3+1
8. How does the property of nucleotide bases affect the three-dimensional structure of nucleic acids?

Group - C

Answer any *one* question : 8×1=8

9. Briefly describe the structure and function of hemoglobin. State the importance of Ramachandran plot. What is collagen triple helix? 4+2+2
10. (a) Rank a triacylglycerol, a diacylglycerol and a monoacylglycerol in order of decreasing solubility in water. Assume that each acylglycerol contains only palmitic acid.
(b) Why pure haemoglobin binds oxygen much more tightly than does haemoglobin in RBCs?
(c) How does RNA nucleotides differ from DNA nucleotides? 3+3+2

Internal Assessment : 5 marks
