



CBCS SCHEME

18BT34

Third Semester B.E. Degree Examination, Dec.2019/Jan.2020

Introduction to Biomolecules

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Discuss the classification of carbohydrates and their categories of presence. (10 Marks)
b. Explain with structure the different isomeric forms of carbohydrates. (10 Marks)

OR

- 2 a. What is cholesterol? Expand on its biological role. (06 Marks)
b. Describe on Phospholipids and Glycolipids with example. (06 Marks)
c. Write a note on Oligo and Polysaccharides. (08 Marks)

Module-2

- 3 a. Describe with structure the organization of Keratin and Collagen proteins. (06 Marks)
b. Write short note on :
(i) Optical isomerism (ii) Zwitter Ions (08 Marks)
c. Explain the Quaternary structure of proteins. (06 Marks)

OR

- 4 a. Explain Alpha Helices and Beta-sheets forming secondary structure of proteins. (10 Marks)
b. Infer on different types of bonds responsible for the formation of protein structures. (06 Marks)
c. Write short notes on properties of Proteins. (04 Marks)

Module-3

- 5 a. Outline with structure the Purines and Pyrimidine for Nucleic acid formation. (08 Marks)
b. List and explain the various forms of RNA appearance. (08 Marks)
c. Differentiate between the composition of DNA and RNA. (04 Marks)

OR

- 6 a. Explain on the Secondary and Tertiary structure of tRNA. (06 Marks)
b. Write short notes on (i) Base Pairing Types (ii) Base stacking (08 Marks)
c. Rephrase on Stabilizing ordered forms of DNA. (06 Marks)

Module-4

- 7 a. Explain the structure and properties of ATP. (08 Marks)
b. Describe in brief the events in PS-I and PS-II. (12 Marks)

OR

- 8 a. Write short note on: (i) Light reaction (ii) Dark reaction (08 Marks)
b. Give a brief note on Photosynthesis. (06 Marks)
c. Illustrate the steps in Coupling reactions of ATP and NDP. (06 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

Module-5

- 9 a. Interpret with diagram the properties of Biological membranes. (05 Marks)
b. Describe the mechanism of Active and Passive transport a/c Biological membranes. (08 Marks)
c. Identify the role of transport of Signal and Process a/c transmembrane. (07 Marks)

OR

- 10 a. Illustrate with structure and chemical composition of Fluid Mosaic Model. (06 Marks)
b. Write short note on Glucose and Amino acid transport a/c Biological membrane. (08 Marks)
c. Explain in detail about Action Potential. (06 Marks)
