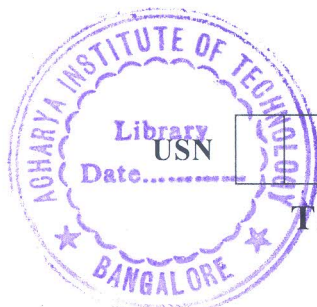


# CBCS SCHEME

18BT34



## Third Semester B.E. Degree Examination, July/August 2021 Introduction to Biomolecules

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions.

- 1 a. Define and classify MonoSaccharides, with suitable examples. (10 Marks)  
b. Write short notes on :  
i) Essential and non essential fatty acids ii) Iodine number. (10 Marks)
- 2 a. Define and classify Polysaccharides. Explain Homo polysaccharide in detail taking any one suitable example. (10 Marks)  
b. Define and classify lipids, with suitable example. (10 Marks)
- 3 a. Explain Secondary Structures of Proteins. (10 Marks)  
b. Explain Ramachandran plot in detail. (10 Marks)
- 4 a. Describe the Thermodynamic aspect of Protein folding. (10 Marks)  
b. Discuss the structure of fibrous protein taking Keratin as an example. (10 Marks)
- 5 a. Explain Watson and Crick model of DNA. (10 Marks)  
b. Write the structures for the below mentioned base pairing :  
i) Adenine and Thymine ii) Guanine and Cytosine iii) Adenine and Uracil. (10 Marks)
- 6 a. Explain the melting curves of DNA and the factors affecting it. (10 Marks)  
b. With a neat labeled diagram, explain Secondary structure of t - RNA. (10 Marks)
- 7 a. Explain the chemical basis for the large free energy change associated with ATP hydrolysis. (10 Marks)  
b. Explain in detail Dark Reaction. (10 Marks)
- 8 a. What are High Energy Compounds? Give the chemical basis for High Energy Compounds. (10 Marks)  
b. Explain Z - Scheme of Photosynthesis. (10 Marks)
- 9 a. With neat labeled diagram, explain Fluid Mosaic model for biological membrane. (10 Marks)  
b. Explain different types of transports in biological membrane. (10 Marks)
- 10 a. Explain the Mechanism of  $\text{Na}^+ / \text{K}^+$  ATPase. (10 Marks)  
b. Explain the role of transport involved in Signal Transduction Process. (10 Marks)

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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.