

Bachelor Of Science (F.Y. B.Sc.) Second Semester Old + CBCS
2SBT-T1 - Biotechnology Paper-I (Biochemistry)

P. Pages : 2

Time : Three Hours



GUG/W/18/11592

Max. Marks : 50

Notes : 1. All questions are compulsory and carry equal marks.

1. Explain the phenomenon of diffusion and osmosis. Describe the significance of osmosis in biology. **10**

OR

Describe the structure of tRNA and mRNA. **10**

2. What are phospholipids and sphingolipids? Describe their chemical structure with example. **10**

OR

Give a detailed account of secondary structure of proteins. **10**

3. a) Explain any two types of interactions between atoms & molecules. **2½**
b) Briefly describe the structure of nucleosome. **2½**
c) Describe the chemical structure of chitin. **2½**
d) How amino acids react with formaldehyde? Explain with chemical reaction. **2½**

OR

e) What is buffer? What is the role of buffer in biochemical reactions? **2½**

f) What are split genes & spacers? **2½**

g) What are saturated and unsaturated fatty acids? Explain with example. **2½**

h) Briefly describe the tertiary structure of proteins. **2½**

4. a) What are hypertonic, hypotonic and isotonic solutions? **2½**
b) Explain the Chargaff's rule. **2½**
c) What are vitamins? How are vitamins classified. **2½**
d) Write a note on primary structure of proteins. **2½**

OR

- e) Explain the terms-normality. Molarity and molality. 2½
- f) Compare the salient features of A, B and Z DNA. 2½
- g) What are liposomes & steroids? Explain with examples. 2½
- h) Give the reaction of ninhydrin with amino acids. 2½

5. Attempt **any ten** of the following:-

- a) Define pH. What is acidic & basic solution? 1
- b) What are molecules? 1
- c) What is solute & solvent? 1
- d) What are nucleosides & nucleotides? 1
- e) What is telomere? 1
- f) What are introns & exons? 1
- g) Write the chemical structure of β -D-glucopyranose. 1
- h) Give an example of non reducing disaccharide. 1
- i) Define carbohydrates. 1
- j) What are acidic amino acids? 1
- k) What are endopeptidases? 1
- l) Give the structure of any one Sulphur containing amino acid. 1
