

Bachelor of Science (B.Sc.) (CBCS Pattern) Second Semester CBCS  
**USBCT-C03 - Biochemistry Paper-I (Cell Biology and Biomolecules)**

P. Pages : 2

Time : Three Hours



**GUG/W/18/11570**

Max. Marks : 50

- Notes :
1. All questions are compulsory & carry equal marks.
  2. Draw diagram wherever necessary.

1. Describe in detail structure & function of fluid mosaic model of plasma membrane. **10**

**OR**

- a) Draw a well labelled diagram of an animal cell. **2½**
- b) Write a short note on facilitated diffusion. **2½**
- c) Explain the mechanism of process of osmosis. **2½**
- d) Give the significance of mitosis & meiosis. **2½**

2. Describe the ultrastructure & function of mitochondria. **10**

**OR**

Write a note on:

- a) Endoplasmic reticulum. **2½**
- b) Describe the structure of Lake's model of ribosome. **2½**
- c) Explain in brief the function of peroxisomes. **2½**
- d) Draw a well labelled diagram of the chloroplast. Add a note on its function. **2½**

3. Give a detailed account of structure of starch & glycogen. **10**

**OR**

- a) Describe the reaction of monosaccharide with Na-Hg. **2½**
- b) Explain why glucose & fructose gives same type of osazone on reacting with phenylhydrazine. **2½**
- c) Explain the term mutarotation. **2½**
- d) Write a note on glycosaminoglycans. **2½**

4. Write an essay on glycerophospholipids. 10
- OR**
- a) Explain saponification of fats. 2½
- b) What are simple & mixed triglycerides. 2½
- c) Write a note on sphingomyelins. 2½
- d) What are fatty acids? Describe essential fatty acids. 2½
5. Solve **any ten** of the following.
- a) What is meant by a prokaryotic cell? 1
- b) Define active transport. 1
- c) Name the scientists who proposed of fluid mosaic model of plasma membrane. 1
- d) Ribosomes are the site of protein synthesis (True or False). 1
- e) What is a nucleolus? 1
- f) Lysosomes are also called as ..... bags a cell. (Fill in the blank). 1
- g) What is epimers? 1
- h) In maltose, the two glucose units are joined by which type of linkage? 1
- i) Name any trisaccharide. 1
- j) What is meant by a rancid fat? 1
- k) Define iodine number. 1
- l) Draw the structure of palmitic acid. 1

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