

B.Sc. First Year CBCS Pattern Semester-II
USBCT-C03 - Biochemistry Paper-I : Cell Biology and Biomolecules

P. Pages : 2

Time : Three Hours



GUG/W/23/11570

Max. Marks : 50

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

1. Discuss in detail the fluid mosaic model for membrane structure. **10**

OR

a) Write a note on interphase of meiosis. **2½**

b) Differentiate between prokaryotic and eukaryotic cell. **2½**

c) Write a note on Primary active transport. **2½**

d) Discuss the process of simple diffusion with example. **2½**

2. Discuss in detail the structure and functions of mitochondria. **10**

OR

a) Give the functions of nucleus. **2½**

b) Write a note on Ribosomes. **2½**

c) Discuss the functions of lysosomes. **2½**

d) Discuss the functions of rough endoplasmic reticulum. **2½**

3. Define carbohydrates. Give the reaction of carbohydrates with. **10**

i) Hydroxylamine.

ii) Phenyl hydrazine.

iii) Fehling's reagent.

OR

a) Draw the structure of maltose and give its nomenclature. **2½**

b) What is Mutarotation? **2½**

c) Give the example of heteropoly saccharide. **2½**

d) Write a note on storage polysaccharide. **2½**

4. Explain the following properties of fats. **10**

i) Saponification value.

- ii) Acid value.
- iii) Iodine number.
- iv) Rancidity.

OR

- a) Give the structure of lecithin and explain ----- 2½
- b) Give classification of lipid ----- 2½
- c) Give the examples of essential fatty acids with chemical structure ----- 2½
- d) Write a note on Triacylglycerols. 2½

5. Attempt any ten of following. (1 Mark for each).

- a) Cell membrane of plant cell consist of cellulose ----- (True or False).
- b) Define Mitosis.
- c) What is Pinocytosis?
- d) RNA is synthesized in Nucleolus ----- (True or false).
- e) Who discovered Golgi Bodies?
- f) Give function of Chloroplast.
- g) Draw ring structure of glucose.
- h) What is anomer?
- i) Define epimer.
- j) What are sphingolipids?
- k) Draw structure of cholesterol.
- l) What is wax?
