B.Sc. F.Y. (C.B.C.S. Pattern) Sem-II

USBCT-C03 - Biochemistry Paper-I : Cell Biology and Biomolecules

P. Pages : 2 **GUG/S/19/11570**

Time : Three Hours * 3 4 6 5 * Max. Marks : 50

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1. Describe the stages and significance of meiosis. **10**

OR

Write notes on :

a) Fluid Mosaic model of singer and Nicolson. **2½**

b) Na-k pump. **2½**

c) Describe passive transport with any one suitable example. **2½**

d) Differentiae between animal cell and plant cell. **2½**

2. What are lysosomes: Give an account of their structure and functions. **10**

OR

a) List the major functions of Golgi body. **2½**

b) Draw a diagram of mitochondria and label the parts. **2½**

c) Describe the structure of nucleus. **2½**

d) Describe the structure of chloroplast in brief. **2½**

3. Define and classify carbohydrates. Describe the reaction of glucose and fructose with Phenylhydrazine – HCl. **10**

OR

Write notes on :

a) Reducing reaction of monosaccharides with Na - amalgam. **2½**

b) Differentiate between amylose and amylopectin with the help of chemical structure. **2½**

c) Why sucrose is known as non - reducing sugar? **2½**

d) What are Glycosaminoglycans? Give examples. **2½**

4. Define lipids and give its classification. Add a note on types of fatty acids with suitable examples. **10**

OR

a) Define saponification. What does saponification value of a fat indicate? **2½**

b) What are simple and mixed triglycerides? Explain with examples. **2½**

c) Explain the phenomenon of rancidity of fats. **2½**

d) Write a note on sphingomyelins. **2½**

5. Answer **any ten** of the following. **10**

i) Define the term active transport.

ii) What is the function of centriole in mitosis.

iii) What is exocytosis.

iv) Why lysosomes called ' Suicide bags"?

v) Name any two functions of endoplasmic reticulum.

vi) What is the function of chloroplast?

vii) Name one non - reducing sugar.

viii) Name the polysaccharide present in the exoskeleton of insects.

ix) Give an example of a keto hexose.

x) Define acid value of fat.

xi) What are mixed triglycerides.

xii) Write the chemical structure of palmitoleic acid.

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