

B.Sc. F.Y. (CBCS Pattern) Semester - II
USBCT-C03 - Biochemistry Paper-I (Cell Biology and Biomolecules)

P. Pages : 2

Time : Three Hours



GUG/S/23/11570

Max. Marks : 50

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

1. Give an account of Mitosis with well labelled diagrams of all phases. **10**

OR

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

b) Discuss active transport with example. **2½**

c) Discuss Na-K pump. **2½**

d) Draw well labelled Fluid mosaic model of the cell membrane. **2½**

2. Discuss in details structure and functions of Nucleus. **10**

OR

a) Draw well labelled diagram of mitochondria. **2½**

b) Describe functions of ribosome. **2½**

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

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

3. Give the reactions of glucose with **10**

i) Phenyl hydrazine hydrochloride

ii) Fehling's reagent

iii) Sodium amalgam

iv) Hydroxylamine.

OR

a) Discuss classification of carbohydrates with one example of each class. **2½**

b) Write a note on reducing and non reducing sugar. **2½**

c) Differentiates between starch and glycogen. **2½**

d) Discuss the phenomenon of mutarotation. **2½**

4. What are lipids? How are they classified? Discuss in detail structure and nomenclature of fatty acid with suitable examples. **10**

OR

Write a note on:

- a) Saponification Value. **2½**
 - b) Acid value. **2½**
 - c) Iodine number. **2½**
 - d) Rancidity **2½**
5. Attempt **any ten** of following **one** mark each. **10**
- a) Define passive diffusion.
 - b) What is function of centriole in mitosis?
 - c) What is exocytosis?
 - d) Give one function of rough endoplasmic reticulum.
 - e) Give one function of Golgi bodies.
 - f) Who discovered chloroplast?
 - g) Draw ring structure of fructose.
 - h) What is epimer?
 - i) Which color obtained after reaction of iodine with starch.
 - j) Draw structure of cephalins.
 - k) Draw structure of phosphatidylserine.
 - l) What is wax?
