

Bachelor of Science (F.Y. B.Sc.) Second Semester Old
2SBC-T1 - Biochemistry Paper-I
(Cell Biology and Biomolecules)

P. Pages : 2

Time : Three Hours



GUG/W/18/1228

Max. Marks : 50

- Notes :
1. All questions are compulsory and carry equal marks.
 2. Draw well labelled diagrams wherever necessary.

1. Describe the structure and functions of peroxisomes and glyoxisomes. **10**

OR

Describe the structure of inulin and chitin.

2. What are phospholipids ? **10**
Explain the chemical structure of
a) Lecithin
b) Cephalin
c) Plasmalogen

OR

Discuss the functions of vitamin folic acid Niacin and Biotin.

3. a) Give the functions of rough endoplasmic reticulum. **2½**
b) Describe the phenomenon of mutarotation. **2½**
c) What are saturated and unsaturated fatty acids ? Explain with examples. **2½**
d) Give the reaction of amino acids with ninhydrin. **2½**

OR

- e) Briefly describe the functions of lysosomes. **2½**
f) Explain why fructose yield two alcohols upon reduction. **2½**
g) What is saponification ? Explain with chemical reaction. **2½**
h) What are aromatic amino acids ? Give their chemical structure. **2½**
4. a) Explain the general structure of ribosome. **2½**
b) What are optical isomers ? Explain with example. **2½**
c) What are sphingolipids ? Give the chemical structure of sphingomyelin. **2½**

- d) Give the reaction of amino acids with formaldehyde. 2½

OR

- e) Describe the general structure and functions of nucleolus. 2½
- f) Give the reaction of glucose and fructose with HNO_3 . 2½
- g) Define iodine number of fat. What is its application ? 2½
- h) Briefly describe the functions of Vitamin C. 2½

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

- a) What is meant by smooth endoplasmic reticulum ?
- b) Name the cell organelle which synthesizes rRNA of ribosomal subunits.
- c) What is meant by D and L sugars ?
- d) In which cell vacuoles are present ?
- e) What is a glycosidic linkage ?
- f) Give the chemical structure of Lactose.
- g) What is lysolecithin ?
- h) Define acid value of fat.
- i) Give two examples of essential fatty acids.
- j) Deficiency of which vitamin causes beri-beri.
- k) Give the example of sulphur containing amino acids.
- l) What are acidic amino acids ?
