Roll No. .....

(12/24)

15006

M.Sc. EXAMINATION

(For Batch 2021 & Onwards)

(First Semester)

CHEMISTRY

Chem/I/NC2

Biology for Chemists

Time : Two Hours *Maximum Marks :* 40

Note : Attempt *Three* questions in all, selecting *one* question from each Unit. Q. No. **1** is compulsory.

1. (a) What do you mean by catabolism ? Explain with examples.

(b) How does the structure of lipid bilayer support its function ?

(c) What do you mean by denaturation of protein ?

(d) Differentiate between nucleosides and nucleotides

(e) What are Disaccharides ? Draw the structure of lactose. 5×2=10

Unit I

2. (a) Write down the similarities and differences between the structures of prokaryotic and eukaryotic cell. 6

(b) What are storage polysaccharides ? Give a brief description of each of them. 6

(c) How is ATP used as energy currency in biological reactions ? 3

3. (a) Describe diagrammatically the various steps of TCA cycle. 7

(b) Write down the structure and biological functions of N-acetylmuramic acid and cellulose. 4

(c) Define Monosaccharide. Illustrate the structural difference between aldehyde and ketone sugars with examples. 4

Unit II

4. (a) Describe the structure and function of triacylglycerols. 3

(b) Explain the chemical hydrolysis of protein to peptides. 3

(c) Describe the β pleated sheet structure of protein. 3

(d) Describe in detail the β oxidation of fatty acid in animal cell. 6

5. (a) What are Chargaff's Rules ? How these rules contribute to the structure of DNA ? 5

(b) Discuss the important features of Watson and Crick model of DNA. 5

(c) What is genetic code ? Describe its important features. 5