

Roll No.

Exam Code : J-21

Subject Code—52512

B. Sc. EXAMINATION

(Main/Reappear) (Batch 2018 Onwards)

(First Semester)

BIOTECHNOLOGY

BIT-102-L (Paper II)

Biochemistry-I

Time : 3 Hours

Maximum Marks : 40

Note : Attempt any *Five* questions. Q. No. **1** is compulsory. All questions carry equal marks.

1. Answer the following questions briefly : **1×8=8**

- (a) What are non-protein amino-acids ? Name any *one* such amino acid.
- (b) What are peptides ? Name *two* important peptides.

- (c) What are hetero-polysaccharides ? Give *one* example.
- (d) What is soap value and iodine number ?
- (e) Name the bases that are present in RNA.
- (f) Mention any *two* important roles of GTP.
- (g) Name any *two* disaccharides and their component sugars.
- (h) What do you understand by Cot value ?

Unit I

- 2. (a) What are Glycoproteins ? Mention any *two* biological functions. 4
- (b) Draw the structure of Glucose and Fructose. Why are they called reducing sugars ? 4
- 3. Discuss in detail various types of intra and inter-molecular forces involved in the stabilisation of biomolecules. 8

Unit II

- 4. Describe the structural organisation of proteins in detail, indicating the forces involved. 8

- 5. How many amino acids are classified as essential amino acids ? Name them. Draw the structure of Glutamic acid, Lysine, Proline and Serine. 8

Unit III

- 6. Explain the structure of Triacylglycerols. What are their important biological roles ? 8
- 7. Write short notes on the following : 8
 - (a) Glycolipids.
 - (b) Essential fatty acids.

Unit IV

- 8. (a) Differentiate between mRNA, rRNA and tRNA. 4
- (b) Write a note on renaturation and denaturation ability of DNA molecule. 4
- 9. Describe Watson and Crick model of double helical model of DNA in detail with structures of nitrogenous bases and sugar. 8