

- (b) What are fatty acids ? Differentiate between saturated, mono-unsaturated and poly-unsaturated fatty acids with examples. 2
- (c) Discuss the structure and function of glycolipids. 2
7. (a) What are the phospholipids ? Explain the structure and function of any *two* phospholipids. 3
- (b) What is the structural difference between A, B and Z DNA ? 3
- (c) What do you understand by DNA denaturation ? 2

Subject Code—52485

B. Sc. EXAMINATION

(Reappear Batch 2017)

(First Semester)

BIOTECHNOLOGY

Paper-II

Biochemistry-I

Time : 3 Hours

Maximum Marks : 40

Note : Question No. 1 is compulsory. Attempt any *Five* questions including the Q. No. 1 and not more than *two* questions from each Unit.

(Compulsory Question)

1. (i) What are biomolecules ? How many types of these are ?
- (ii) What are essential amino acids ? Draw the structure of any *three* essential amino acids.

- (iii) Differentiate between homo and hetero polysaccharides with suitable examples.
 - (iv) Discuss the clover leaf structure of tRNA.
- 4×2=8**

Unit I

- 2. (a) How do glucose, mannose and galactose differ from each other ? 2
- (b) Write down the importance of covalent and non-covalent bonds in biomolecules. 3
- (c) What is Peptide bond ? Describe the structure and function of some biologically important peptides. 3
- 3. (a) Describe the structure and function of structural polysaccharides. Also elaborate the structural difference between cellulose and chitin. 4
- (b) Differentiate between standard, non-standard and non-protein amino acids. Write down the structure and function of two amino acids in each class. 4

- 4. (a) Describe the structure and function of proteoglycans. 4
- (b) How is pKa value determined from a titration curve ? 2
- (c) What are amino sugars ? Write down the structure and functions of any *two* amino sugars. 2

Unit II

- 5. (a) What are Proteins ? Discuss their classification based on structure and functions. 3
- (b) Explain the secondary structure of protein in detail. 3
- (c) Describe the quaternary structure of hemoglobin. 2
- 6. (a) Describe various methods for determining N terminal amino acids. Also discuss their merits and demerits. 4