

August-2008

[KT 872]

Sub. Code : 5002

B.Sc. (Medical Laboratory Technology) DEGREE
EXAMINATION.

First Year

Paper II — BASIC CHEMISTRY

Q.P. Code : 725002

Time : Three hours Maximum : 100 marks

Answer ALL questions.

- I. Essays : (2 × 15 = 30)
1. What are buffer solutions? How do they act? When does buffer capacity of a buffer become maximum? Derive an expression relating the pH of a buffer with the concentration of its components. (2 + 3 + 5 + 5)
 2. Discuss the primary, secondary and tertiary structure of proteins. (5 + 5 + 5)
- II. Write short notes on : (10 × 5 = 50)
1. Nucleotides and Nucleosides.
 2. Classification of carbohydrates.

3. The differences between glucose and fructose.
 4. Synthesis of α -amino acids.
 5. Replication of DNA.
 6. Enzyme inhibition.
 7. Factors influencing enzyme activity.
 8. Biological importance of proteins.
 9. Phospholipids.
 10. Types of RNA and their functions.
- III. Short answers questions : (10 \times 2 = 20)
1. Mention any four aliphatic compounds of physiological importance.
 2. Mention two differences between an animal cell and a plant cell.
 3. What does a nucleus of a cell consist of?
 4. Write any two functions of lipids.
 5. Mention any two unsaturated fatty acids.
 6. Explain what is meant by essential fatty acids.
7. Describe any two functions of proteins.
 8. Mention any four nonessential aminoacids. Why are these called as nonessential aminoacids?
 9. What are the bases present in nucleic acids?
 10. Define enzymes. Cite two examples of enzymes.