

B.Sc. Ist Year (CBCS Pattern) Semester - II  
**011A - Biotechnology Paper-I (Biochemistry)**

P. Pages : 2

Time : Three Hours



**GUG/S/23/11592**

Max. Marks : 50

1. Describe Acids, Bases and Different types of solutions in details. 10

**OR**

- a) Write a note on covalent bond. 2½
- b) Describe the concept of atom and molecule in brief. 2½
- c) Write a note on concept of Normality. 2½
- d) Write a note on co-ordinate interaction. 2½

2. Describe the details of Watson and crick model of DNA. 10

**OR**

- a) Write a note on Base composition of Nucleic acids. 2½
- b) Give a brief note on c-value paradox. 2½
- c) Write a note on m-RNA. 2½
- d) Describe the concept of split genes. 2½

3. Describe in details about structure and properties of polysaccharides with the help of suitable examples. 10

**OR**

- a) Write a note on monosaccharides. 2½
- b) Write in brief about classification of carbohydrates. 2½
- c) Write a note on Lipids. 2½
- d) Describe physiological functions of vitamins. 2½

4. What are amino acids? Give detail about their classification. 10

**OR**

- a) Describe physicochemical properties of amino acids. 2½
- b) Write a note on primary structure of proteins. 2½
- c) Write in brief about  $\alpha$ -helix. 2½
- d) Write a note on structure of Hemoglobin. 2½

**5. Solve any ten.**

- a) What is pH? 1
- b) Define molality. 1
- c) What is covalent bond? 1
- d) What are exons? 1
- e) What is nucleosome? 1
- f) Give the role of t-RNA. 1
- g) What are Aldoses? 1
- h) What are saturated fatty acids? 1
- i) Give the names of fat soluble vitamins. 1
- j) Write any two acidic amino acids. 1
- k) Which bond is present in primary structure of protein? 1
- l) What is  $\beta$ -pleated sheet? 1

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