

[Time: 3 Hours]

[Marks:80]

Please check whether you have got the right question paper.

N.B: 1. All questions are **compulsory**.

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| Q.1 | A. Draw the structure of Fructose by using Fischer projection formula | 1 |
| | B. Draw the structure of D-Arabinose by using Haworth projection formula | 1 |
| | C. Give name of an aromatic amino acid | 1 |
| | D. Explain anabolism with example | 1 |
| | E. Enlist water soluble vitamins | 1 |
| | F. Define Mutarotation | 1 |
| | G. Name and write the structure of coenzyme form of Vitamin-B ₆ | 1 |
| | H. Define annealing for nucleic acids | 1 |
| | I. Write the structure of sucrose | 1 |
| | J. Draw the structure of Lecithin | 1 |
| | K. Draw the structure of GTP | 1 |
| | L. Deficiency of Vitamin-C leads to | 1 |
| | M. Give name and draw the structure of acidic amino acids with three letter code | 2 |
| | N. Differentiate reducing and non-reducing sugar | 2 |
| | O. Explain the primary structure of proteins | 2 |
| | P. Explain Rancidity | 2 |
| Q.2 | A. Explain the α -Helix structure of proteins | 3 |
| | B. Explain ATP as energy carrier | 3 |
| | C. Discuss the biochemical role of Vitamin-B ₉ | 3 |
| | D. Note on nucleoside | 2 |
| | E. Enumerate silent features of digestion of carbohydrates | 1 |
| Q.3 | A. Write a note on starch | 3 |
| | B. Write a note on biochemical role of Vitamin-A or Vitamin-D | 3 |
| | C. Differentiate DNA and RNA | 3 |
| | D. Explain concept of standard free energy and transformed free Energy | 2 |
| | E. Write the role of Liver in digestion of food | 1 |
| Q.4 | A. Classify amino acids based on functional group with examples (No structures required) | 3 |
| | B. Write a note on glycolipid or phospholipids | 3 |
| | C. Discuss the biochemical role of riboflavin or nicotinamide | 3 |
| | D. Write a note on Inositol | 2 |
| | E. Explain thermodynamically unfavorable reaction | 1 |

TURN OVER

- Q.5 A. Write a note on polysaccharides 3
- B. Write a note on folic acid or thiamine 3
- C. Write a note on Ascorbic acid or Biotin 3
- D. Draw structure of Phospholipids 2
- E. Write salient features of lipid digestion 1

- Q.6 A. Write a note on Triglycerol 3
- B. Write a short note on Vitamin-K or Vitamin-E 3
- C. Differentiate between DNA and RNA 3
- D. Explain laws of thermodynamics 2
- E. Explain nucleotide with example of it 1