

(3 hours)

Total Marks: 70

N.B.: All questions are compulsory

- Q.1 A. Draw the structure of  $\beta$ - D-galactose by Fischer Projection Formula 1
- b. Draw the structure of  $\beta$ - D-ribose by Haworth Projection Formula 1
- c. Draw structure of Sphingomyelin 1
- d. Explain effect of Temperature on enzyme activity 1
- e. Give the Mechanism of Renin-Angiotensin converting enzyme inhibitors. 1
- f. Name the active form of Vit-B<sub>3</sub>. 1
- g. Explain Rancidity 1
- h. What is Reversible enzyme inhibition 2
- i. Define vitamin and enlist fat soluble vitamins 2
- j. Classification of amino acid based on Nutritional requirement. 2
- k. Define anabolism with example 2
- Q.2 a. Write a note on primary and tertiary structure of Protein. 3
- b. Explain NADH<sub>2</sub> as Energy Carrier 3
- c. Discuss Competitive enzyme inhibition using Michelis Menten and Lineweaver Burk plot 3
- d. Give the role of Liver in digestion and absorption of Food 2
- Q.3 a. Compare glycogen and starch in terms of structure and function 3
- b. Write a note on Vitamin-E or Vitamin-K. 3
- c. Write a note on Biotin 3
- d. Justify "Oxidation as Source of Energy in Biological system" 2
- Q.4a. Classify amino acids based on their chemical structure with example of each class (Structures not required) 3
- b. Write a note on Lipoproteins 3
- c. Write a note on Vitamin-B<sub>2</sub> or Vitamin-B<sub>9</sub> 3
- d. Explain thermodynamically Favorable Reactions 2

Turn Over

Q.5a. Write a note on Disaccharides

- b. Explain effect of substrate concentration on enzyme activity
- c. Explain cascade system for enzyme regulation
- d. Discuss biochemical role of Ascorbic acid

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Q.6 a. Write a note on Vitamin-B<sub>1</sub> or Vitamin-B<sub>3</sub>

- b. Explain Post-translational Modification
- c. Write reaction catalysed and name of an inhibitor for the following enzymes
  - 1) Monoamine oxidase
  - 2) Dihydrofolate reductase
- d. Draw structure of Arachidonic acid

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