

(3 hours)

Total Marks: 70

N.B.: All questions are compulsory

- Q. 1 a) Draw the structure of β -D glucose by using Haworth projection formula 1
- b) Draw the structure of D-xylose by using Fischer projection formula 1
- c) Define vitamins 1
- d) Define enzyme induction and repression 1
- e) Explain inversion of sucrose 1
- f) Draw the structure of Lecithin 1
- g) Name the proteolytic enzyme required for digestion of protein 1
- h) Deficiency of Vitamin C leads to..... 1
- i) Write the structure of any one epimer of glucose 1
- j) Give name and draw the structure of an aromatic amino acids 2
- k) Explain catabolism with example 2
- l) Name and write the structure of coenzyme form of Vitamin B₁ 2
- Q. 2 a) Derive Michaelis Menten equation. 3
- b) Give the role of FADH₂ as an energy carrier 3
- c) Discuss the biochemical role played by Vitamin B₂ or Vitamin B₆ 3
- d) Enumerate silent features of digestion and absorption of carbohydrates 2
- Q. 3 a) Write a note on starch 3
- b) Give detail account of vitamin folic acid 3
- c) Write the reaction catalyzed by following enzymes (any two) 3
- i) Thymidylate synthetase ii) DHFR iii) HIV protease
- d) What is the concept of free energy and standard free energy 2
- Q. 4 a) Classify amino acids based on their nutritional requirement give at least two structures of each class 3
- b) Write a note on Glycolipid or Lipoprotein 3
- c) Discuss the biochemical role of pantothenic acid or nicotinamide 3
- d) Explain thermodynamically favorable reaction 2

Turn Over

- Q. 5 a) Write a note on diassccharides 3
- b) Explain with reaction role of retinal in the body 3
- c) Write a note on Vitamin D or Vitamin A 3
- d) Classify fatty acids with example 2
- Q. 6 a) Give detail classification of lipid 3
- b) Write a note on Ascorbic acid or Biotin 3
- c) Describe α - helix structure of protein in detail 3
- d) Differentiate between fats and oils 2
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