

(3 Hours)

[Total Marks : 80

Bio-Chemistry

20

- N.B.:
1. Question No. 1 is compulsory.
  2. Attempt any 3 questions from Q.No. 2 to Q.No.6
  3. All questions carry equal marks.
  4. Draw diagrams to support your answer.

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1. Answer the following: (any 4) [20]
  - a. Give classification of Lipids.
  - b. What are buffers? What is its significance in a biological system?
  - c. Explain the terms 'Activation energy' and 'Transition state' with respect to enzymes.
  - d. Explain ATP as energy currency.
  - e. Explain the structure and function of Pyruvate Dehydrogenase Complex.
2.
  - a. Titration curve reveals the strength of weak acids. Justify with the help of suitable examples. [10]
  - b. What are Hydrogen bonds? Give an account of the importance of Hydrogen bonds in stabilizing the structure of Biomolecules. [10]
3. Give structure and function of : (any 4) [20]
  - a. Peptidoglycan
  - b. Keratin
  - c. Glycerophospholipids
  - d. Alpha helix
  - e. b DNA
4.
  - a. What are the factors effecting enzyme activity? [10]
  - b. What are Vitamins? Give an account of their role in metabolism. [10]
5. Explain the following pathways. (any 2) [20]
  - a. Glycolysis
  - b. Electron Transport Chain
  - c. Beta oxidation of Fatty acids
6.
  - a. Explain the Laws of Thermodynamics in detail. [10]
  - b. Discuss the reactions involved in Urea Cycle. [10]