

2021

Time :As in Programme

Full Marks : 50

The figures in the right-hand margin indicate marks.

Answer all questions.

1. (a) Discuss the structure, bonding and function of transferrin [8]
 - (b) Write notes on [4 × 2 = 8]
 - (i) Na^+ / Ca^{2+} exchange
 - (ii) Calmodulin
- Or
- (a) Discuss the structure, bonding and functions of carbonic anhydrase. [8]
 - (b) Discuss the structure function of cytochromes. [8]
2. (a) Discuss about the spectroscopic evidences of biological nitrogen fixation? [8]
 - (b) Discuss the structural features of hemoglobin and myoglobin and their role in oxygen transport. [10]
- Or
- (a) Outline the structure of some model complexes of nitrogenase. 8
 - (b) Write notes on [5 × 2 = 10]
 - (i) Molybdenum nitrogenase
 - (ii) Photosystem I and photosystem - II

3. (a) Discuss about different types of receptors for anionic binding and discuss the reason of anion binding. [8]
- (b) What do you mean by multiple recognition? Discuss various approaches of synthesis of supramolecular complexes through multiple recognition. [8]

Or

- (a) Discuss the importance of supramolecular chemistry towards transport process and carrier design. [8]
- (b) Write notes on. [4 x 2 = 8]
- (i) Supramolecular photochemistry
- (ii) Self assembly in supramolecular chemistry

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