

III-S-(M.Sc.-CBCS-Chem)-502-
(Bio-Inorg.Ch.)R&B

2019

Time : As in Programme

Full Marks : 50

Answer all questions. The figures in the right-hand margin indicate marks.

1. (a) Discuss the classification and functions of siderophores. 8
- (b) Discuss the role of $\frac{\text{CO}_3^{2-}}{\text{HCO}_3^-}$ in the function of transferrin. 5
- (c) What do you mean by sulphur protein? 3

OR

- (a) Write notes on the following: 4×2
- (i) Troponin C
- (ii) Cyt-P450

(2)

- (b) Discuss the structure, bonding and functions of carbonic anhydrase. 8
2. (a) Discuss the role of PS-I and PS-II in cleavage of water. 6
- (b) Discuss the role of molybdenum nitrogenase in biological nitrogen fixation. 6
- (c) What do you mean by cooperative phenomenon? How is it expressed through Hill plot? 6

OR

- (a) Discuss the structure, bonding and functions of chlorophyll. 8
- (b) Discuss the structural features of hemerythrin (Hr) and hemocyanin (Hc) and their role in oxygen transport. 10
3. (a) Discuss about different types of receptors for cationic binding. 5
- (b) What are co-receptor molecules? How they are useful for multiple recognition? 5
- (c) Discuss the role of supramolecular chemistry towards catalysis. 6

OR

(3)

- (a) Write notes on the following : 4×2
- (i) Supramolecular electronic devices
 - (ii) Supramolecular switching devices
- (b) Discuss about supramolecular self assembly through examples. 8
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