

Roll No. :

Total No. of Questions : 11]

[Total No. of Printed Pages : 3

BPF-2199

M.Sc. (Final) Examination, 2022

CHEMISTRY

Paper - VII (A)

(Group-A CH-503)

(Advanced Inorganic Chemistry)

Time : 3 Hours]

[Maximum Marks : 75

Section-A

(Marks : 2 × 10 = 20)

Note :- Answer all *ten* questions (Answer limit **50** words). Each question carries **2** marks.

Section-B

(Marks : 5 × 5 = 25)

Note :- Answer all *five* questions. Each question has internal choice (Answer limit **200** words). Each question carries **5** marks.

Section-C

(Marks : 10 × 3 = 30)

Note :- Answer any *three* questions out of five (Answer limit **500** words). Each question carries **10** marks.

Section-A

1. (i) What do you mean by Alkyls of transition metal ?
- (ii) Write *two* preparation method of aryls of transition metal.

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- (iii) What are trienyl transition metal complexes ?
- (iv) What do you mean by transition metal π -complexes ?
- (v) Define Oxopalladation Reaction.
- (vi) Explain η^3 -allyl complexes.
- (vii) What are functions of transferrin ?
- (viii) Write structure formula of cytochrome P-450.
- (ix) What is the scope of supramolecular chemistry ?
- (x) Write a note on metalloreceptor.

Section-B

2. Write a short note on nucleophilic reaction in the ligand role in organic synthesis.

Or

Write a short note on stability of some aryls transition metal.

3. Write some properties of alkyne, allyls of transition metal.

Or

Explain use of metal in diagnosis and chemotherapy.

4. Describe homogeneous catalytic hydrogenation.

Or

Describe activation of C—H bond in homogeneous catalysis.

5. Explain the role of siderophores.

Or

What do you mean by term superoxide dismutase ? Explain.

6. Write an essay on the molecular receptors for different types of molecule.

Or

Describe Supramolecular Photochemistry.

Section-C

7. Write an essay on transition metal compound with bonds of hydrogen.
8. Discuss and explain :
 - (i) Metal deficiency disease
 - (ii) Toxic effect of metal
9. Explain fluxionality and dynamic equilibria in compounds such as dienyl complexes.
10. Explain these term (any *two*) :
 - (i) Zn enzymes-carboxy peptidase
 - (ii) Carbonic anhydrase
 - (iii) Iron enzyme catalase
11. Explain supramolecular electronic and switching devices.