

Roll No. : .....

Total No. of Questions : 11 ]

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# **BFMS-423**

**M.Sc. (Final) Examination, 2023**

**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 Hydrogen Bonds ?

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- (ii) Write one synthesis of organo copper metal compound.
- (iii) Define transition metal compounds.
- (iv) Write drug of Anti-cancer.
- (v) What do you mean by Oxopalladation Reaction ?
- (vi) Define fluxional organometallic compound.
- (vii) Write one synthesis method of Carbinols.
- (viii) Define Biomeralisation.
- (ix) What do you mean by Supramolecules with suitable examples ?
- (x) Explain electronic device of supramolecules.

**Section-B**

2. Explain the nucleophilic reaction role in organic synthesis.

*Or*

Explain Nucleophilic reaction of transition metal with carbon multiple bonds.

3. Write some methods of preparation of trienyl complexes.

*Or*

Define the transition metal  $\pi$ -complexes with example diene  $\pi$  complexes.

4. Describe the Ziegler-Natta Polymerization.

*Or*

Write short note on hydroformylation of oxoreaction.

5. Explain the coenzyme vitamin B-12.

*Or*

Explain the cytochrome P-450.

6. Describe concept of supramolecular chemistry.

*Or*

Write short note on carriage design of transport process of supramolecular.

### Section-C

7. Write short notes on the following :
  - (a) Transition metal-carbon metal bonds (multiple bonds)
  - (b) Low valent carbenes synthesis
8. Describe the metal deficiency and disease with metal diagnosis.
9. Write short notes on the following :
  - (i) Stoichiometric reaction for catalysis
  - (ii) Catalysis reaction involving carbon monoxide (CO).
10. Explain transferrine and siderophores.
11. Write short notes on the following :
  - (i) Supramolecular reactivity
  - (ii) Ionic and switching devices of supramolecular