

SP-2252

M.Sc. (Final) Examination, 2019 CHEMISTRY

Paper-VII(A) (Group-A)

CH-503

(Advanced Inorganic Chemistry)

Time allowed : Three hours

Maximum Marks : 75

SECTION - A

(Marks $2 \times 10 = 20$)

Answer all ten questions (Answer limit 50 words). Each question carries 02 marks.

खण्ड - अ

(अंक $2 \times 10 = 20$)

समस्त दस प्रश्नों के उत्तर दीजिए (उत्तर सीमा 50 शब्द)। प्रत्येक प्रश्न 2 अंक का है।

SECTION - B

(Marks $5 \times 5 = 25$)

Answer all five questions. Each question has internal choice (Answer limit 200 words). Each question carries 05 marks.

खण्ड - ब

(अंक $5 \times 5 = 25$)

समस्त पांच प्रश्नों के उत्तर दीजिए। प्रत्येक प्रश्न में विकल्प का चयन करें (उत्तर सीमा 200 शब्द)। प्रत्येक प्रश्न 05 अंक का है।

SECTION - C

(Marks $10 \times 3 = 30$)

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

खण्ड - स

(अंक $10 \times 3 = 30$)

पांच में से किसी भी तीन प्रश्नों के उत्तर दीजिए (उत्तर सीमा 500 शब्द)। प्रत्येक प्रश्न 10 अंक का है।

SECTION - A

(Marks $2 \times 10 = 20$)

1. (i) What do you mean by Alkyls of Transition metals ? 2
- (ii) Write one synthesis method of aryls of transition metals. 2
- (iii) Describe transition metal σ -complexes. 2
- (iv) Write drugs of anti-cancer. 2
- (v) What do you mean by oxopalladation reaction ? 2
- (vi) Define fluxional organometallic compound. 2
- (vii) Write structural formula of vitamin B_{12} . 2
- (viii) Define Biominerallisation. 2
- (ix) What do you mean by supramolecules ? Define with suitable examples. 2
- (x) Explain electronic devices of supramolecules. 2

SECTION – B

(Marks $5 \times 5 = 25$)

2. A short note on stability of some aryls transition metals. 5

OR

Explain nucleophilic reaction of transition metal with carbon multiple bonds.

3. Write some methods of preparations of trienyl complexes. 5

OR

Write a role of metal in chemotherapy.

4. Describe Ziegler Natta polymerization. 5

OR

Write a short note on hydroformylation of olefins.

5. Explain Cytochrome P-450. 5

OR

Describe Zn enzymes-carboxypeptidase.

6. Describe concept of supramolecular chemistry. 5

OR

Write a short note on supramolecular catalysis.

SECTION – C

(Marks $10 \times 3 = 30$) 10

7. Write short note :

- (i) Organocopper in organic synthesis.
(ii) Transition metal compounds with bonds of hydrogen.

8. Write an essay on metal deficiency disease and toxic effect of metal. 10

9. Write short notes on :

- (i) Stoichiometric reaction for catalysis.
(ii) Catalytic reaction involving carbon monoxide.

10. Explain transferrin and siderophores. 10

11. Write an essay on molecular recognition. 10