Roll No : .....

Total No. of Questions : **11**] [Total No. of Printed Pages : **3**

SP–678

M.Sc. (Final) Examination, 2021

CHEMISTRY

Paper - VII (A)

(Group-A CH-503)

(Advanced Inorganic Chemistry)

Time : 1½ Hours] [*Maximum Marks : 75*

Section–A **(Marks : 2 × 10 = 20)**

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

(खण्ड–अ) **(अंक : 2 × 10 = 20)**

नोट :– सभी **दस** प्रश्नों के उत्तर दीजिए (उत्तर-सीमा **50** शब्द)। प्रत्येक प्रश्न **2** अंक का है।

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.

(खण्ड–ब) **(अंक : 5 × 5 = 25)**

नोट :– सभी **पाँच** प्रश्नों के उत्तर दीजिए। प्रत्येक प्रश्न में विकल्प का चयन कीजिए (उत्तर-सीमा **200** शब्द)। प्रत्येक प्रश्न **5** अंक का है।

Section–C **(Marks : 10 × 3 = 30)**

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

(खण्ड–स) **(अंक : 10 × 3 = 30)**

नोट :– पाँच में से किन्हीं **तीन** प्रश्नों के उत्तर दीजिए। (उत्तर-सीमा **500** शब्द)। प्रत्येक प्रश्न **10** अंक का है।

Section–A

2 each

1. (i) What do you mean by Aryls of transition metal ?
   (ii) Write *two* synthesis method of alkyls of transition metals.
   (iii) What do you mean by transition metal π-complexes ?
   (iv) Write the name of metal deficiency disease.
   (v) Define Oxo reaction.
   (vi) Explain +2-olifin.
   (vii) Write structural formula of vitamin B_{12}.
   (viii) Define Ferritin.
   (ix) Who is the father of supramolecular Chemistry ?
   (x) Explain electronic devices of Supramolecule.

Section–B

5 each

2. A short note on stability of some alkyls transition metals.

Or

Role of transition metal-carbon compounds in organic synthesis.

3. Write some properties of trienyl complexes.

Or

Write an essay on toxic effect of metal.

4. Discuss on Stoichiometric reaction for catalysis.

Or

Explain +3-allyl and dienyl complexes.

5. Describe carbonic anhydrase.

Or

A short note on Siderophores.

6. Describe transport process and carriage design in Supramolecular Chemistry.

Or

Write a short note on Switching devices.

Section–C

10 each

7. Discuss on types, routes of synthesis and stability of Aryls and Alkyls of transition metal.
8. Write an essay on anticancer drugs.
9. Discuss on Zeigler-Natta polymerisation.
10. Write short notes on the following :
    (i) Iron enzyme catalase
    (ii) Molybdenum oxatransferase
11. Discuss on Molecular Recognition.