Roll No. .....

Y – 3137(A)

M.Sc. (Fourth Semester) (SPECIAL) EXAMINATION, August 2021

(SECOND CHANCE)

CHEMISTRY

Paper–MCH-601

(Organ Transition Metal Chemistry)

Time : Three Hours

Maximum Marks : 85 *Minimum Pass Marks : 29*

Note : Attempt *all* questions.

1. Give two synthetic methods for the preparation of transition metal alkyls and aryls. Also explain their stability and decomposition pathway. 17

2. Explain fluxionality and dynamic equilibrium in following compound (any *one*) : 17

   (i) Acyclic alkenes

   (ii) Metal carbonyls.

3. Write short notes on : 17

   (i) η^4-butadiene complexes

   (ii) Structure of η^3-allyl complexes.

4. Explain hydrogenation of alkenes using $[RnCl(P\ Ph_3)_3]$ catalyst. Also explain polymer supported catalyst. 17

5. How will you synthesize transition metal carbyne complexes ? 17