

Roll No.

Y – 3137

M.Sc. (Chemistry) Fourth Semester EXAMINATION,

May/June-2021

Paper – MCH-601

ORGAN TRANSITION METAL CHEMISTRY

Time : Three Hours

Maximum Marks : 85

Minimum Pass Marks : 29

Note—Attempt *all* questions.

Unit-I

1. How will you synthesize transition metal carbyne complexes ? Discuss their reaction and structures. 17

Unit-II

2. How will you prepare $(\eta^5\text{-C}_5\text{H}_5)_2\text{Fe}$? Draw and explain molecular orbital diagram of $(\eta^5\text{-C}_5\text{H}_5)_2\text{Fe}$. 17

Unit-III

3. Highlight the synthetic applications of following stoichiometric reagents (Any Two). 17

- (i) Organo lithium.
- (ii) Organo thallium.
- (iii) Organo Zinc.
- (iv) Organo Silicon.

Unit-IV

4. Write short note on hydrogenation of alkenes with example. 17

Unit-V

5. Explain fluxionality and dynamic equilibrium in following compound (ANY ONE). 17

- (i) Acyclic alkenes.
- (ii) Metal Carbonyls.

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