

- (b) Comment on the reactivity and selectivity of the following hydride transfer reagents : 8
 LiAlH_4 & NaBH_4

7. Illustrate significant applications of : 8,8
(i) Leadtetraacetate
(ii) Perbenzoic acid.

Unit IV

8. Describe with mechanisms and examples : 8,8
(i) Hoffman-Lofler Freytag reaction
(ii) Baeyer-Villiger oxidation.
9. Explain with mechanism : 6,5,5
(i) Beckmann Rearrangement
(ii) Neber Rearrangement
(iii) Hoffman Degradation.



No. of Printed Pages : 04

Roll No.

31544

M.Sc. EXAMINATION, 2025

(Fourth Semester)

(2020-21 Onwards)

(Regular & Re-appear)

CHEMISTRY

20CHE43OSE1

Organic Chemistry Special-VI

An Organic Reaction and Reagents

Time : 3 Hours]

[Maximum Marks : 80

Note : Attempt *Five* questions in all, selecting *one* question from each Unit. Q. No. 1 is compulsory. All questions carry equal marks.

(Compulsory Question)

1. (a) Which reaction intermediate is involved in curtius and Wagner-Meerwein rearrangement ?

- (b) What is Birch Reduction ?
- (c) Explain the role of 1, 3-dithiane in reactivity umpolung.
- (d) What is Grignard Reagent ? Write any *two* uses of it.
- (e) Give an example of semipinacol Rearrangement.
- (f) What do you understand by Homogeneous catalysis ?
- (g) What are clays ? Where are they used ?
- (h) Write any *two* application of Boron trifluorides. **2×8=16**

Unit I

- 2. (a) Explain briefly the properties and applications of Alkene Palladium (II) Complexes. **8**
- (b) What are σ -organochromium(III) complexes ? Highlight the main application of these complexes in organic synthesis. **8**

- 3. Write the important applications of the following reagents : **6,5,5**
 - (i) TBTH
 - (ii) Dialkyl copper lithium
 - (iii) *n*-butyllithium.

Unit II

- 4. Outline the role of the following reagents in organic chemistry : **8,8**
 - (i) DCC
 - (ii) Mont-K-10.
- 5. Discuss the important applications of : **6,5,5**
 - (i) Cuprous chloride
 - (ii) Diazomethane
 - (iii) N-Bromosuccinamide.

Unit III

- 6. (a) Describe mechanism of hydrogenation and significant applications of Wilkinson's catalyst. **8**