

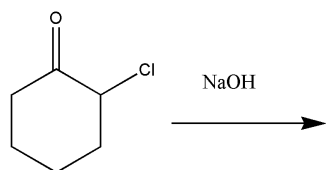
M.Sc. DEGREE END SEMESTER EXAMINATION - APRIL 2025
SEMESTER 2: CHEMISTRY/PHARMACEUTICAL CHEMISTRY
COURSE: 24P2CHET06/24P2CPHT06 - ORGANIC REACTION MECHANISM
(For Regular - 2024 Admissions)

Duration: Three Hours

Max. Weights: 30

PART A**Answer any 8 questions****Weight: 1**

1. What is Stork-enamine reaction? (CO1)
2. Explain E1CB mechanism with suitable example. (CO1)
3. How boron enolates are produced and draw its structure. (CO2)
4. Draw the expected product of the following reaction and give its mechanism. (CO2)



5. What are the substrate, reagents and products of Prins reaction? (CO2)
6. What is benzilic acid rearrangement? (CO2)
7. Explain the addition and insertion reaction of carbenes with one example each. (CO2)
8. Show examples for autooxidations. (CO3)
9. What is Mc Murry Coupling (CO3)
10. What is meant by dipolar addition? (CO4)

(1 x 8 = 8)**PART B****Answer any 6 questions****Weights: 2**

11. Discuss the Darzens glycidic ester condensation step by step. (CO2)
12. What is Shapiro reaction? Explain the steps. (CO2)
13. Explain Wagner-Meerwein rearrangement with suitable example (CO2)
14. Explain the details of halolactonisation reaction. (CO2)
15. Explain Barton deoxygenation reaction. (CO3)
16. Discuss general aspects of Baldwin rule. (CO3)

17. What is the mechanism of Huisgen reaction (CO4)
18. Discuss ene reaction with stereochemical aspects (CO4)
- (2 x 6 = 12)**

PART C

Answer any 2 Questions

Weights: 5

19. Write note on a) Vilsmyer formylation b) Markownikoff addition
c) Walden inversion and d) Von Richter reaction. (CO1)
20. Draw the structure, generation and important reactions of nitrenes. (CO2)
21. Discuss the unimolecular pyrrolic elimination reactions with an
emphasis on N-oxides and xanthates. (CO4)
22. Formulate the selection rules for [1,3] and [1,5] suprafacial and
antarafacial sigmatropic rearrangement under thermal and light
irradiation condition based on FMO treatment. (CO4)

(5 x 2 =10)

	<i>Course Outcome</i>
CO1	Describe the mechanisms of different type's organic reactions
CO2	Explain the chemistry of carbanions, carbocations, carbenes, carbenoids, nitrenes and arynes.
CO3	Understand the chemistry of radical reactions and its applications
CO4	Explain the basics and applications of concerted reactions