



RAN-2003080204010003

M. Sc. (Sem. - IV) Examination September - 2025 Organic Chemistry (Paper - I) Advance Organic Chemistry

Time: 3 Hours]

[Total Marks: 70

સૂચના : / Instructions

- (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the above details on your answer book.
- (2) Figures to the right indicate full marks of the questions.

Seat No.:

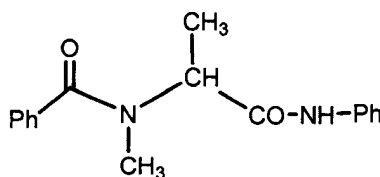
--	--	--	--	--	--

Student's Signature

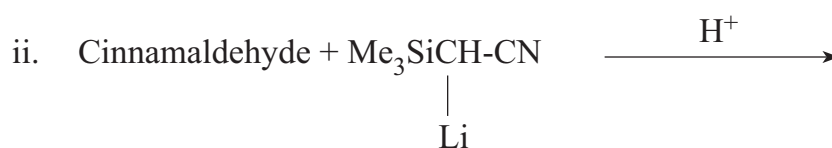
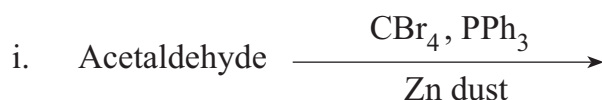
Q. 1. Answer any three of the following:

(18)

- a. Explain the reaction mechanism and applications of Corey-Fuchs reaction.
- b. What is multi component reaction? Give mechanism of the following reaction:
Acetaldehyde + Methylamine + Phenyl isocyanide + Benzoic acid $\rightarrow$



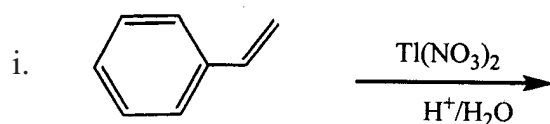
- c. Give the preparation of Mannich base. Explain the mechanism and synthetic application of Mannich reaction.
- d. Give the end product, name and suitable mechanism of the following:

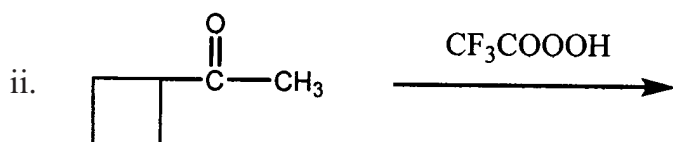


Q. 2. Answer any three of the following:

(18)

- a. Discuss the application of Mn (VII) as an oxidizing agent in organic synthesis.
- b. Explain the reaction mechanism and synthetic application of OSO_4 as an oxidizing agent.
- c. Discuss the application of Cr (VI) in the organic synthesis.
- d. Give the product and mechanism of the following:

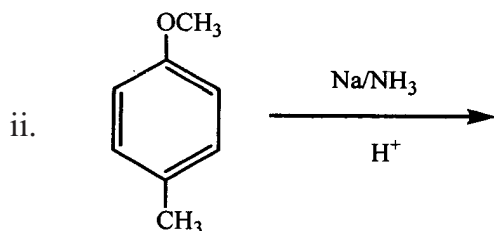
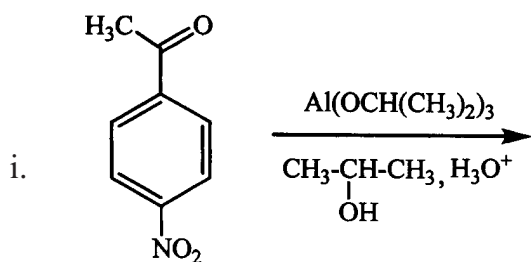




Q. 3. Answer any three of the following:

(18)

- Discuss the reduction of esters, nitroso and oximes giving suitable examples.
- Explain Shapiro reaction with suitable examples.
- Explain the applications of LiAlH_4 as reducing agent in organic synthesis. Give its mechanism with suitable examples.
- Give the product(s) and explain the mechanism of the following:



Q. 4. Give the end product, name the rearrangement and offer suitable mechanism of any four of the following:

(16)

