



UTTARAKHAND OPEN UNIVERSITY, HALDWANI (NAINITAL)

M.Sc. Second Year Chemistry*Last Date of Submission:*

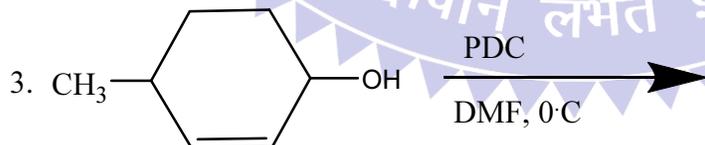
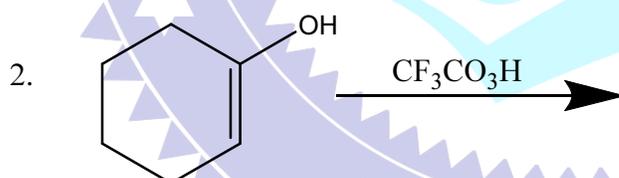
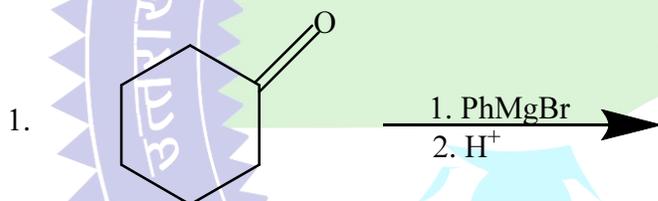
15 May, 2015

Course Title: Synthetic Organic Chemistry**Course Code: CHE552****Year: 2014-15****Maximum Marks: 40 Marks****Section 'A'**

Section 'A' contains 08 short answer type questions of 5 marks each. Learners are required to answer 4 questions only. Answers of short answer-type questions must be restricted to 250 words approximately.

Briefly discuss the following:

1. Complete the following reaction:



2. Write a short note on:

a. Epoxidation of alkenes

b. Oppenauer oxidation

3. Give the mechanism of the following name reactions:

(a) Birch reduction

- (b) Knoevenagel condensation
4. Write a short note on:
- Stork enamine synthesis
 - Cope elimination
5. Discuss the mechanism of the following reaction:
- Ramberg Bocklund reaction
 - Hydroboration reaction
6. What is protecting group? Discuss briefly the role of protecting group in organic synthesis.
7. Explain the term C-X disconnection. Write brief the retrosynthesis and synthetic methods for alcohols and carbonyl compounds.
8. Define the term Chemoselectivity, regioselectivity and stereoselectivity.

Section 'B'

Section 'B' contains 04 long answer-type questions of 10 marks each. Learners are required to answer 02 questions only.

- Write the mechanism of the following reaction:
 - Stork Enamine synthesis
 - Robinson Annulation
 - Simmons-Smith reaction
 - Clemmensen reduction
- Write retrosynthetic analysis and synthesis of Z-Jasmone.
 - Explain briefly the reaction of alkyl boranes with carbon monoxide.
- Explain the term reversal of polarity.
 - Explain the suitable examples synthetically useful disconnections of 1,2 and 1,3-dicarbonyl derivatives.
- Complete the following terms with suitable examples:
 - Retrosynthetic analysis
 - Enantiotopic faces
 - Wilkinson catalysis
 - Haptophilicity
 - Reversal of polarity.