

PH 581.4

Reg. No. :

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St Aloysius College (Autonomous)

Mangaluru

Semester IV – P.G. Examination – M.Sc. Chemistry

ST.ALOYSIUS COLLEGE

PG Library

MANGALORE-575 002

April - 2025

ORGANIC SYNTHETIC METHODS

Time: 3 Hours

Max. Marks: 70

PART - A

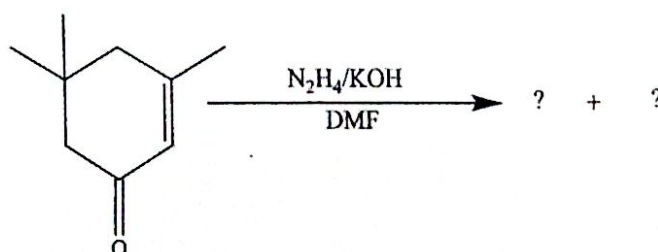
1. Answer any **FIVE** questions of the following: (5x2=10)
- How do transition metal catalysts participate in homogenous catalysis reactions?
 - What types of organic functional groups can be reduced using lithium aluminium hydride?
 - Describe Shapiro reaction with example.
 - Explain the mechanism of the reaction of peracid with keto compound.
 - Give carbon - carbon double bond forming reactions.
 - Write a note on Ene reaction.
 - Perform retrosynthetic analysis of phenacetin.
 - Avoid chemoselectivity issues while disconnection. Explain.

PART - B

Answer any **FIVE** of the following choosing at least one full question from each unit: (5x12=60)

UNIT - I

- 2.a) Explain the role of sodium borohydride as a reducing agent in organic chemistry. (4)
- b) Give the synthetic utility of sodium metal in liquid ammonia. How this is used to synthesize unconjugated dihydroderivatives. (4)
- c) Outline the bimolecular reduction of esters. (4)
- 3.a) What is heterogeneous catalysis? Discuss its mechanism with suitable examples. (4)
- b) Predict the product with the mechanism for the following and also mention the name of the reaction:



- c) Write a note on reduction using diimide. (4)

Contd...2