

QP CODE: 26802005



Reg No :

Name :

INTEGRATED M Sc DEGREE EXAMINATION APRIL 2026
Second Semester
INTEGRATED M Sc BASIC SCIENCES - CHEMISTRY
CORE - ICH2CR03 - BASIC LEVEL IN ORGANIC CHEMISTRY

2020 Admission Onwards

AFE8C8B0

Time: 3 Hours

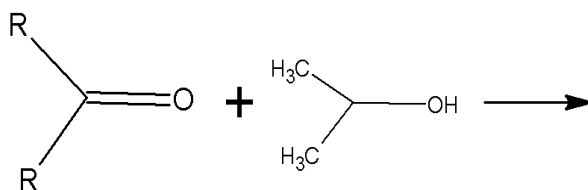
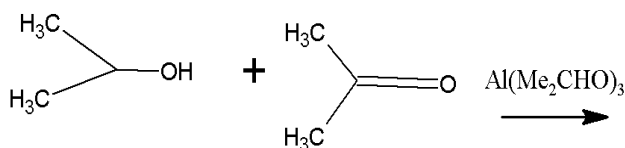
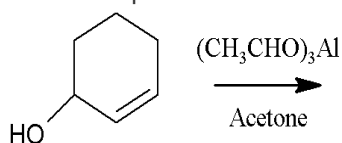
Weightage: 30

Part A (Short Answer Questions)

Answer any **eight** questions.

Weight **1** each.

1. Why is secondary carbocation more stable than primary carbocation?
2. The peroxide effect is not observed in addition of HCl and HI. Why?
3. Define Markovnikov's rule with example.
4. Give the structure of alkenes that yield on ozonolysis of alkynes.
5. Will coronene show aromatic character. If so, why?
6. Give the resonating structures of naphthalene.
7. Predict the product



8. Explain the following Nucleophilic addition reaction of carbonyl compounds:-a) with Alcohol b) with ammonia.





9. What is Iodoform test? Give example with mechanism.
10. What is Clemmensen's reduction?

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

Weight 2 each.

11. What is +M and -M effect? Explain it with an example.
12. Explain Saytzeff and Hoffman rule- elimination with example.
13. "Chlorination of hydrocarbons is an exothermic reaction and yet it requires high temperature and exposure to uv radiations for its success". Explain.
14. $-\text{CH}_3$ group is *o,p* orienting towards electrophilic substitution. Why?
15. Explain Pinacol-Pinacolone rearrangement.
16. Explain Halogenation, nitration and Sulphonation of phenol and preparation and uses of nitrophenols.
17. Write a note on the preparation of Aldehydes from Alcohols and Acid chlorides.
18. Compare the properties of formaldehyde and acetaldehyde.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

Weight 5 each.

19. Explain the types of organic reaction.
20. Write short notes on:- (a) preparation of alkenes, (b) cis and trans addition of alkenes, (c) addition of HX with mechanism.
21. Discuss the mechanism of following reactions: a) Halogenation, b) Nitration, c) Sulphonation, d) Friedel-Crafts reaction of benzene.
22. Explain the oxidation reactions - Tollen's and Fehling's tests, Iodoform test, Baeyer-Villiger oxidation (with mechanism).

(2×5=10 weightage)

