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QP CODE: 25022465

Reg No :

Name :

M.Sc DEGREE (CSS) SPECIAL REAPPEARANCE EXAMINATION, APRIL 2025**Third Semester**

M.Sc APPLIED CHEMISTRY

CORE - CH030302 - ADVANCED SYNTHETIC ORGANIC CHEMISTRY

2019 ADMISSION ONWARDS

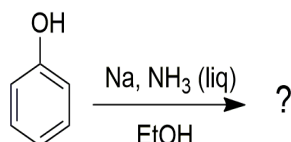
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Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)*Answer any **eight** questions.**Weight **1** each.*

1. Distinguish between stereoselective and stereospecific reactions.
2. Suggest one method for the synthesis of epoxides.
3. Discuss any one application of Bergman cyclization.
4. Suggest one method for the synthesis for furan.
5. Write note on Rosenmund reduction.
6. Predict the product



7. Explain the importance of the following reagents in organic synthesis NaBH₄ (b) LiAlH₄
8. What do you mean by molecular recognition?
9. Write the application of Supramolecular complex as a phase transfer agent.
10. Draw the structures of β -carotene and quinine.

(8×1=8 weightage)



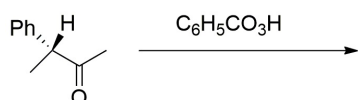


Part B (Short Essay/Problems)

Answer any **six** questions.

Weight 2 each.

11. Describe the role of oxazolidinone in Evan's asymmetric aldol condensation.
12. Describe the key concepts involved in the synthesis of aromatic compounds.
13. Discuss Robinson annelation and Michael reaction with mechanism.
14. Suggest the reagents and discuss the mechanism involved in the Prevost hydroxylation.
15. Write down the mechanism and predict the product of the following reaction.



16. Discuss Henry reaction and Nef reaction with examples.
17. Describe Click reactions and its synthetic importance.
18. Briefly explain various methods used to sequence DNA.

(6×2=12 weightage)

Part C (Essay Type Questions)

Answer any **two** questions.

Weight 5 each.

19. Write an essay on the application of metal and non-metal based oxidation of alkene to epoxides. Illustrate with examples.
20. Explain the following coupling reactions using mechanism a) Heck Reaction b) Suzuki Reaction c) Negishi reaction d) Buchwald-Hartwig (2)
21. Applications of supramolecular complexes in medicine and perfumery industries.
22. Give an account of the procedures adopted in arriving at the Primary structure of Proteins and nucleic acids

(2×5=10 weightage)

