



25047514

QP CODE: 25047514

Reg No :

Name :

M.Sc DEGREE (CSS) EXAMINATION, NOVEMBER 2025**Third Semester**

M Sc PHARMACEUTICAL CHEMISTRY

Core Course - CH040301 - SYNTHETIC AND BIOINORGANIC CHEMISTRY

2019 ADMISSION ONWARDS

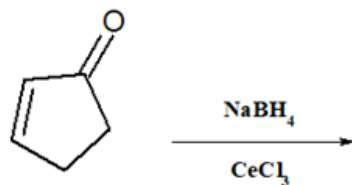
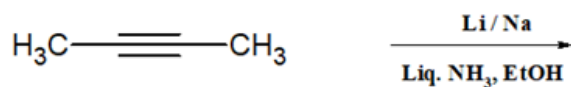
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Time: 3 Hours

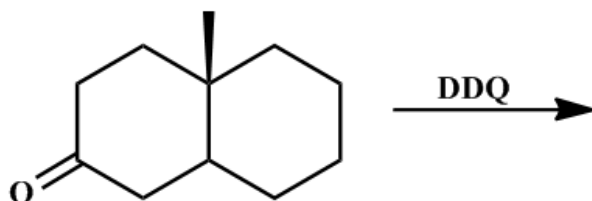
Weightage: 30

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

1. What is PCC used for? How is it prepared?
2. Give the products of the following reactions:

(a)**(b)**

3. What is Ritter reaction? Give its mechanism.
4. What is Suzuki-Miyaura coupling? Explain the reaction mechanism with an example.
5. Draw the structure of DDQ and give the product of the reaction:





6. What is DEAD reagent? Give any two uses of DEAD.
7. Suggest a suitable reaction to convert six membered carbocyclic compounds into a five membered carbocyclic compound.
8. Explain the structure of calixarenes.
9. Define the energy efficiency principle.
10. Expand the terms "Nor", "Appo" and "Iso" with examples.

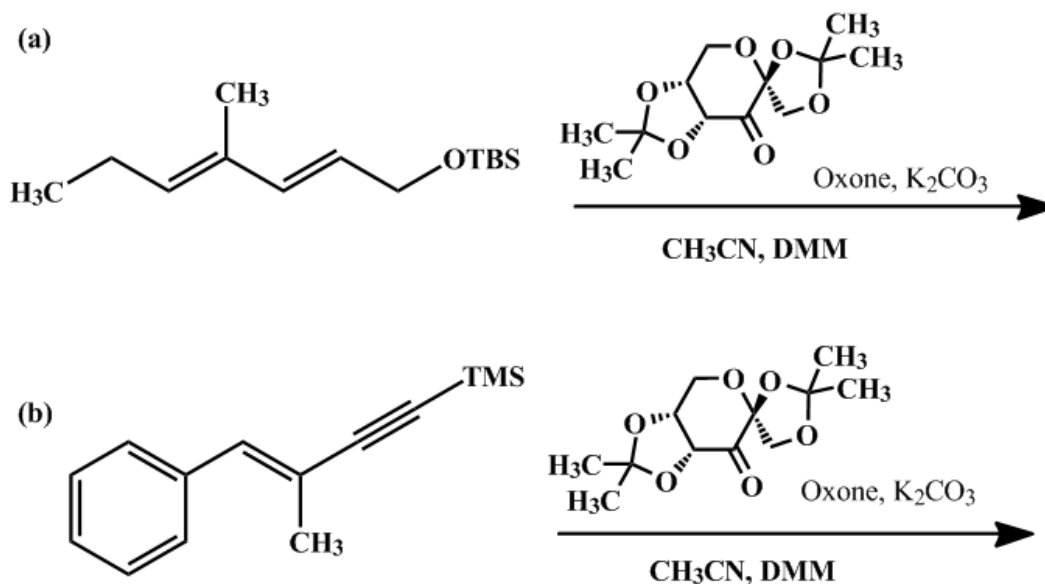
(8×1=8 weightage)

Part B (Short Essay/Problems)

Answer any **six** questions.

Weight 2 each.

11. Predict the products of the following reactions:



The catalyst is taken only in 0.2 to 0.3 equivalent amounts.

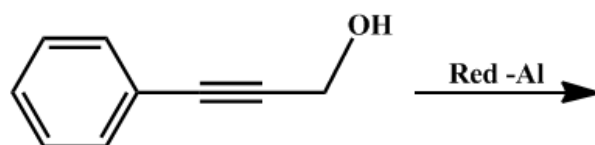
12. Give the mechanism of ozonolysis.
13. What is Baylis Hillman Reaction? Give its mechanism.
14. What are multicomponent reactions? Give examples of any two multicomponent reaction with its mechanisms.



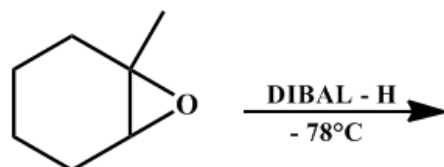


15. Give the products of the reactions:

(a)



(b)



16. What is oppenhauer oxidation? Give its mechanism.

17. Discuss any two green organic synthesis with mechanism.

18. Explain the general principles of microwave & ultrasound assisted organic synthesis with suitable examples.

(6×2=12 weightage)

Part C (Essay Type Questions)

Answer any **two** questions.

Weight **5** each.

19. Explain the different methods for the epoxidation of alkenes. Write mechanism of each method and give their applications.

20. Write notes on Pauson-Khand reaction, Nazarov cyclisation, Bergman cyclisation and Radical olefin cyclisation.

21. Write an essay on (a) molecular recognition (b) non-bonded interactions.

22. Explain the structure and synthesis of cholesterol.

(2×5=10 weightage)

