Reg. No ..... Name **18P3620**

MSc DEGREE END SEMESTER EXAMINATION - OCTOBER 2018

SEMESTER 3 : CHEMISTRY / PHARMACEUTICAL CHEMISTRY

COURSE : **16P3CHET10 / 16P3CPHT10 : ORGANIC SYNTHESES**

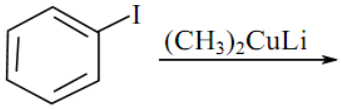
(For Regular - 2017 Admission & Supplementary - 2016 Admission)

Time : Three Hours Max. Marks: 75

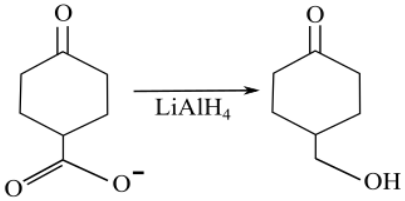
Section A

Answer any 10 (2 marks each)

1. Write the product



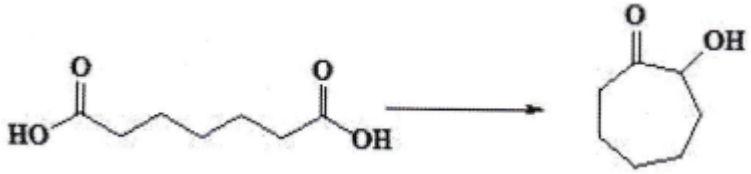
2. Discuss Demjenov reaction.
3. Discuss ring closing metathesis.
4. Explain how you will accomplish the following synthesis.



5. Define retrosynthetic analysis. What is its significance?
6. Illustrate the method of functional group interconversion (FGI) with a suitable example.
7. Write a brief note on the structure and complexation ability of crown ethers.
8. Discuss the stereochemistry of p-tert-butyl calix[4]arene.
9. What is Red-Al? Give the structure and any one use.
10. What is swern oxidation ?
11. What is Baker's yeast? Give one synthetic application.
12. Give the product and explain the reactions.

$CH_2{=}CH_2{+}RCOOOH \longrightarrow ?$

13. Convert



(2 x 10 = 20)

Section B

Answer any 5 (5 marks each)

14. a) Discuss Michael addition?

b) Briefly explain Reformatsky reaction?

15. Write the product with mechanism?

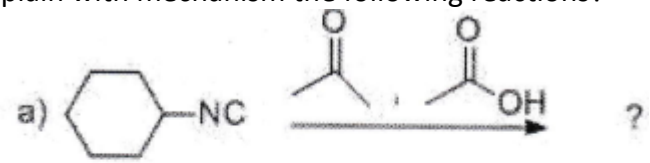
$$R^1 - B(R)_2 + R^2 - X \xrightarrow[\text{Base, ligand}]{\text{Pd.}^\circ \text{ Catalyst}} ?$$

16. Write notes on Nazarov cyclization and Robinson annulation.
17. Apply retrosynthetic analysis and devise a synthetic route for d-luciferin.
18. Discuss the enantioselective synthesis of Corey lactone.
19. Discuss the various forces and interactions involved in molecular recognition.
20. What is targeted drug delivery? Discuss the methods and advantages.
21. Give a comparative study of the synthetic applications of $LiAlH_4$ and $NaBH_4$.

(5 x 5 = 25)

Section C
Answer any 2 (15 marks each)

22. Explain with mechanism the following reactions?



23. Write a note on the aromaticity of Furan, Thiophene and Pyrrole. Discuss the Paal-Knorr synthesis of Furan, Thiophene and Pyrrole.
24. a) Write a note on the salient features and advantages of solid phase peptide synthesis.
    b) Outline the steps in the synthesis of Gly-Ala-Val using the SPPS procedure.
25. Write briefly on the oxidising agents
    a) Ag_2CO_3 b) RuO_4 c)OsO_4 d) O_3

(15 x 2 = 30)