

Reg. No

Name

17P3620

MSc DEGREE END SEMESTER EXAMINATION- OCTOBER-NOVEMBER 2017

SEMESTER 3 : CHEMISTRY / PHARMACEUTICAL CHEMISTRY

COURSE : 16P3CHET10 / 16P3CPHT10 ; ORGANIC SYNTHESIS

(For Regular - 2016 admission)

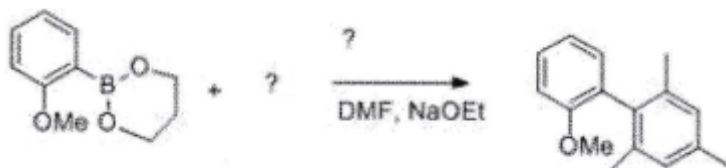
Time : Three Hours

Max. Marks: 75

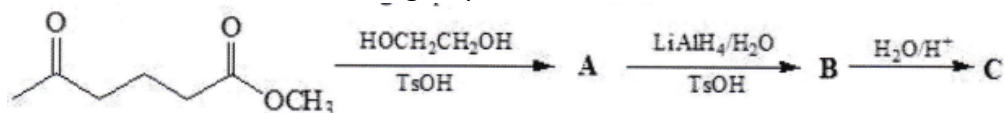
Section A

Answer any 10 (2 marks each)

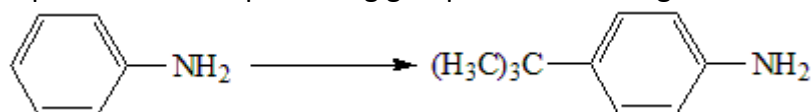
1. Complete the following reaction?



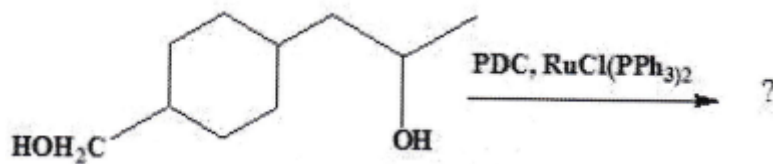
2. Discuss radical cyclization.
 3. Compare the basicity of pyrrole with conventional amines.
 4. Predict A, B & C in the following sequence of reactions.



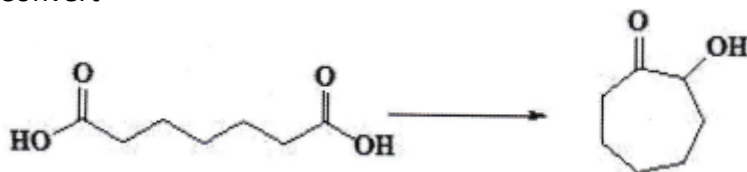
5. Explain the role of protecting group in the following conversion.



6. Explain disconnection approach with a suitable example.
 7. Illustrate the method of functional group interconversion (FGI) with a suitable example.
 8. Provide the reagents corresponding to the following synthons.
 a) CH_3^+ b) CH_3^-
 9. Define tetrahedral recognition. Cite an example.
 10. Discuss the stereochemistry of p-tert-butyl calix[4]arene.
 11. What is Lindlar Catalyst? Give a synthetic application
 12. Predict the products



13. Convert

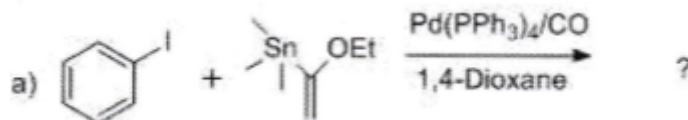


10 x 2 (20)

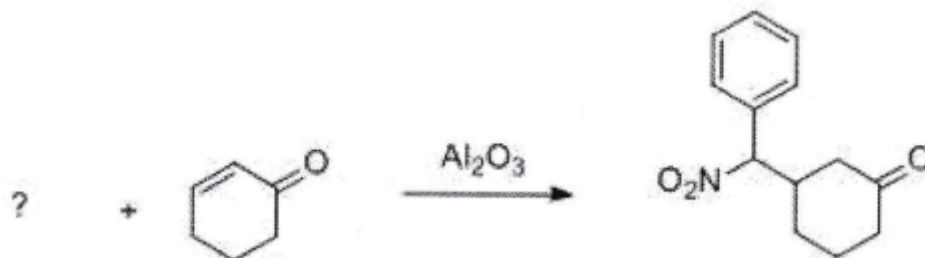
Section B

Answer any 5 (5 marks each)

14. Complete the following reaction with mechanism?



15. Complete the reagents and explain the mechanism of the following reaction?



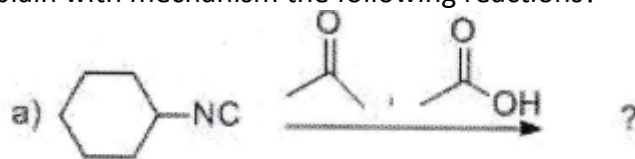
16. Write any two methods for the synthesis of 5-membered ring compounds.
17. Write a short note on the synthesis of aromatic compounds.
18. Discuss the importance of supramolecular interactions in structure organisation and properties of nucleic acids and proteins.
19. What is targeted drug delivery? Discuss the methods and advantages.
20. Explain Swern oxidation with mechanism
21. Explain acyloin condensation with mechanism. Give its synthetic application

5 x 5 (25)

Section C

Answer any 2 (15 marks each)

22. Explain with mechanism the following reactions?



23. Write short notes on i) Nazarov cyclization ii) Bergman cyclization iii) Pauson-Khand reaction and iv) Robinson annulation
24. Briefly discuss the strategies for protection and de-protection of hydroxyl (-OH) and amino (-NH₂) groups in organic synthesis.
25. Write brief notes on the reducing properties and synthetic applications of the following reagents.
- | | |
|-------------------------|--------------------------|
| i). Selectrides | ii). Trialkylsilanes |
| iii). Trialkylstannanes | iv). Acyloxyborohydrides |

2 x 15 (30)