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**B.M.S. COLLEGE FOR WOMEN AUTONOMOUS
BENGALURU-560004
SEMESTER END EXAMINATION-APRIL/MAY- 2023**

M.Sc. Chemistry-III Semester

ORGANIC SYNTHESIS

Course code: MCH302T

Time: 3 Hours

QP Code: 13007

Max.Marks:70

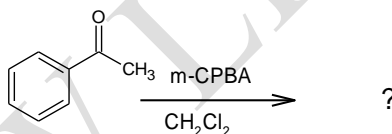
Instruction: Answer Question No. 1 and any FIVE of the remaining.

1. Answer any *TEN* questions

(2×10 =20)

a) What is Fischer-Hepp reaction? Explain with an example.

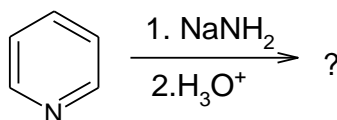
b) Identify the product with possible mechanism



c) Predict the product and suggest the mechanism.

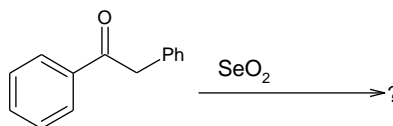


d) Formulate the products formed in the following reaction with suitable mechanism:



e) Give any two synthetic applications of DCC.

f) Give the product and propose the Mechanism:



g) Highlight Dess martin oxidation with suitable example.

h) Draw the structures of any two hindered organoboranes and name them.

- i) Sketch the steps involved in Birch reduction of benzene.
- j) With suitable example, show how asymmetric induction can be brought to aldehydes.
- k) What is Sharpless asymmetric aldol condensation?
- l) What is 'ee'? Mention any one method to determine 'ee'
- 2. a) Describe Hofmann –Loeffler-Fretag reaction.**
- b) Discuss the following carbon-carbon bond forming reactions with suitable example:
- i) Prins reaction
- ii) Acyloin Condensation (4+3+3=10)
- 3. a) Give an account on synthetic applications of DDQ**
- b) Write a short note on HIO₄ (5+5=10)
- 4. a) Citing suitable example, describe the Corey-Bakshi-Shibata reaction**
- b) Discuss homogeneous and heterogeneous catalytic hydrogenation reactions (5+5=10)
- 5. Write short notes on**
- a) Enantio selective intramolecular aldol condensation
- b) Double asymmetric induction (5+5=10)
- 6. a) Describe Skraup synthesis.**
- b) With suitable example, give the mechanism of enantioselective Michael addition (5+5=10)
- 7. a) Describe the various steps involved in the Robinson annulation**
- b) Discuss the synthetic applications of DMSO and NBS. (5+5=10)
- 8. a) Discuss the mechanism of Asymmetric sharpless epoxidation with an example.**
- b) Give the preparation of (S) BINAL-H and mention its uses
- c) Write a note on asymmetric reduction by S, S-CHIRAPHOS/H₂ (3+3+4=10)
