

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.

B.Sc. Chemistry - END SEMESTER EXAMINATIONS APRIL - 2024

SEMESTER - V

20UCHCT5010 - Organic Chemistry - I

Total Duration : 2 Hrs. 30 Mins.

Total Marks : 60

Section B

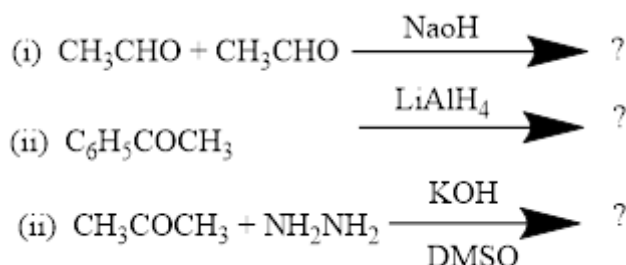
Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Describe Perkin condensation reaction and Reformatsky reaction. (2+3)
2. Sketch the chair and boat conformations of cyclohexane.
3. Predict the optical activities of biphenyls and allenes.
4. Describe the synthesis and any two reactions of quinoline.
5. Explain the synthetic uses of acetoacetic ester.
6. Compute the relative stabilities of conformations of n-butane.
7. Describe racemisation by substitution and tautomerism. (2+3)
8. Prepare the following: (i) furan (ii) diazoacetic ester

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

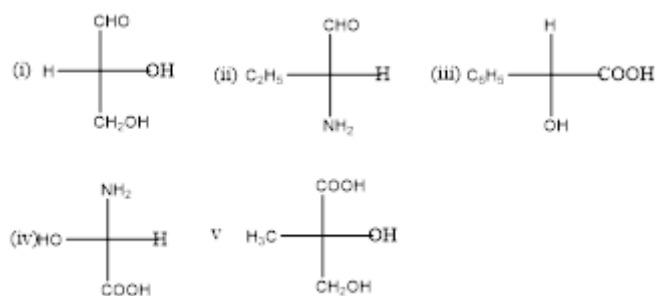
9. a) Predict the products for the following reactions (2+2+1)



- b) Explain the mechanism of Claisen reaction. (5)
10. a) Compare the acidic nature of the methylene groups of malonic ester and acetoacetic ester.
b) Compare the acid-base catalysed interconversion mechanisms of keto-enol forms of ethyl acetoacetate.

Contd...

11. Diagnose the following chiral compounds as R or S based on Cahn-Ingold Prelog rule.



12. a) Classify the geometrical isomerism in maleic acid and fumaric acid. (4)

b) Prepare diastereomers from enantiomers using any two methods of resolution. (6)

13. Compare the basicity of pyrrole, pyridine and piperidine.
