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.
M.Sc.(Chemistry) END SEMESTER EXAMINATIONS NOVEMBER - 2023
SEMESTER - I
22PCHCT1001 - Basic Principles of Organic Chemistry

Total Duration : 2 Hrs. 30 Mins. Total Marks : 60

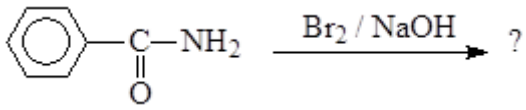
Section B

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

1. Explain the aromaticity of cyclooctatetraene and cyclobutadiene.

2. Illustrate the types of kinetic isotope effect with suitable example.

3. Predict the intermediate of the following reaction and justify that it is an intramolecular rearrangement.



4. Predict 'R' and 'S' configuration to the following compounds.

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5. Explain the dissymmetry of allenes.

6. Explain the conformational analysis of 1,2 and 1,3 disubstituted cyclohexane and relate their stability.

7. Explain the following with examples (i) Enantiotopic hydrogen, (ii) Homotopic hydrogen (iii) Diasteretopic hydrogen.

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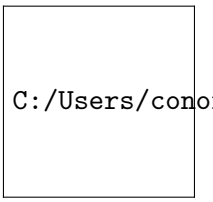
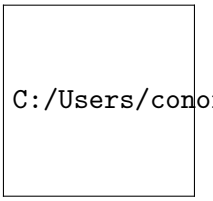
8. Determine the mechanism by using suitable reagent/s and explain the salient features of the following reaction. (6)



Section C

I - Answer any **TWO** questions $(2 \times 10 = 20$ Marks)

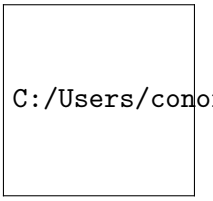
9. Explain the aromaticity of the following compounds:



10. Apply the Hammond postulate to the bromination of isobutane and compare its selectivity with chlorination using its reaction co-ordinate diagram.
11. Distinguish stereospecific and stereoselective reactions with suitable example.
12. Examine the conformation and stereochemistry of $cis-$ and $trans-$ decalin and 9-methyl decalin.

II - Compulsory question $(1 \times 10 = 10$ Marks)

13. Predict the possible product/s with the mechanism of the following reactions



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