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 2025
SEMESTER - II
22UCHCT2003 - Basics of Organic Chemistry

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

Section B

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

1. What are hemolytic and heterolytic fission? Explain with suitable examples.
2. Explain the role of steric effect on S_N2 reaction.
3. Give the mechanism of halogenation of methane and give three evidences in support of mechanism.
4. What is Markownikoff s rule? Illustrate with suitable examples.
5. Discuss the mechanism of electrophilic substitution in benzene.
6. Corey-House reaction is better method for preparing alkanes than Wurtz reaction. Explain why?
7. Explain Saytzeff's rule and its application in dehydrohalogenation reactions.
8. (i) Explain the mechanism of nitration of benzene.
   (ii) Explain why nitration of chlorobenzene gives ortho and parachloronitrobenzene but the chlorination of nitrobenzene gives metachloronitrobenzene.

Section C

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

9. What are carbocation? Discuss the relative stability of primary, secondary and tertiary carbocation. Give one method of generation of carbocation. Discuss its structure.
10. Give a detailed note on nucleophilic aromatic substitution and its application?
11. Give the main features of Baeyer's strain theory? Why does this theory fail to account for the stability of cyclohexane?
12. Give the products when the following reagents react with alkenes
    (i) Sulphuric acid (ii) Halogen (iii) Oxidation (iv) Ozone.
13. Write a detailed note on Electrophilic substitution reaction of nitration, halogenation, sulphonation and Friedel Crafts alkylation in detail also mentioning its mechanism.

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