

A-062

Total Pages : 3

Roll No.

MSCCH-507

M.Sc. CHEMISTRY (MSCCH)

(Organic Chemistry-II)

2nd Semester Examination, 2024 (June)

Time : 2:00 Hrs.

Max. Marks : 70

Note :- This paper is of Seventy (70) marks divided into Two (02) Sections 'A' and 'B'. Attempt the questions contained in these Sections according to the detailed instructions given therein. *Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.*

Section-A

(Long Answer Type Questions) 2×19=38

Note :- Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

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P.T.O.

1. Define the nucleophilic substitution reaction. Explain the stereochemistry of SN^1 and SN^2 reaction.
2. How will you define the elimination reaction. Discuss the various types of elimination reaction with reference to stereochemistry of the reaction.
3. What are pericyclic reactions ? Discuss various types of pericyclic reactions in details.
4. Write the mechanism of the following reaction
 - (a) Stobbe reaction
 - (b) Stork-enamine reaction
 - (c) Claisen rearrangement
5. Write a note on the following
 - (a) Ipso attack
 - (b) Benzyne Mechanism
 - (c) Nitration of benzene
 - (d) Classical and non-classical carbocation

Section-B

(Short Answer Type Questions) 4×8=32

Note :- Section 'B' contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. Discuss the SET reaction with suitable examples.
2. Write the mechanism of Sommelet-Hauser rearrangement and Smiles rearrangement reaction.
3. Explain why aniline is more reactive than acetanilide in electrophilic substitution reaction.
4. Give the mechanism and application of Sharpless asymmetric epoxidation.
5. Discuss the mechanism of metal hydride reductions of carbonyl and ester compounds.
6. What do you understand by umpolung ? Discuss the mechanism of carbonyl group umpolung.
7. Discuss the Woodward-Hoffmann correlation diagram of electrocyclic reaction.
8. Discuss the mechanism of 1, 3 Dipolar and Sigmatropic reactions.
