

K-386

Total Pages : 3

Roll No.

MSCCH-507

Organic Chemistry-II

M.Sc. Chemistry (MSCCH)

2nd Semester Examination, 2023 (Dec.)

Time : 2 Hours]

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)

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.

(2×19=38)

1. Define the nucleophilic substitution reaction. Explain the energy profile diagram of SN^1 and SN^2 reaction.
2. Discuss the stereochemistry of aliphatic electrophilic substitution reaction with reference to $\text{S}_{\text{E}}1$ and $\text{S}_{\text{E}}\text{i}$ reaction.
3. Discuss the PMO and FMO approach for the electrocyclic reactions.
4. What do you understand by cycloaddition reaction? Explain different types and stereochemistry of cycloaddition reaction.
5. Write the mechanism of the following reaction :
 - (a) Michael addition reaction.
 - (b) Vilsmeier reaction.
 - (c) Friedel-Crafts alkylation.

SECTION-B

(Short Answer Type Questions)

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. (4×8=32)

1. Discuss the SN^{i} reaction with suitable examples.

2. Write explanatory note on nucleophilic substitution at allylic and vinylic carbon.
 3. What is neighbouring group participation? Explain its types with suitable examples.
 4. Discuss the different product of saytzeff's and Hofmann elimination reaction.
 5. Write a explanatory note on hydrogenation of aromatic rings.
 6. Write the mechanism of Wittig reaction and claisen condensation reaction.
 7. Write the mechanism of Sandmeyer and Hunsdieker reactions.
 8. Discuss the mechanism of Chelotropic and Ene reactions.
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