A–0985

Total Pages : 3 **Roll No. .....**

MSCCH-507

M.Sc. Chemistry (MSCCH)

Organic Chemistry-II

Examination February, 2026

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.

1. What are pericyclic reactions ? Discuss various types of pericyclic reactions in detail.

2. What is the Neighbouring Group Participation ? Classify the Neighbouring Group Participation and explain each with an example.

3. What is the Elimination reaction ? Discuss the El and E2 elimination reaction with an appropriate example.

4. Give the mechanism of the following reactions :

   (a) Hunsdiecker reaction

   (b) Micheal Addition

   (c) Gatterman Koch reaction

5. What is cycloaddition reaction ? Classify the cycloaddition reactions and Discuss the Huckel-Mobius Approach in Sigmatropic Rearrangement.

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. Draw the molecular orbital diagram of 1, 3-butadiene and allyl cation.

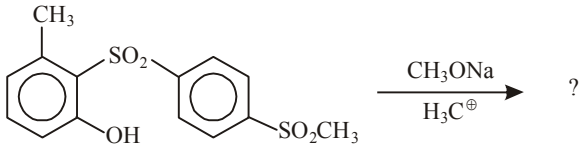
2. Discuss the SET reaction with suitable examples.

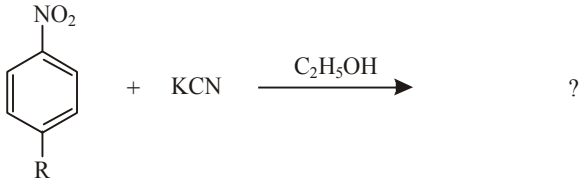
3. Discuss the Woodward-Hoffmann correlation diagram of electrocyclic reaction.

4. What is an aliphatic electrophilic substitution reaction ? Discuss various types of aliphatic electrophilic substitution.

5. Write the mechanism of the Wittig reaction and Claisen condensation reaction.

6. Complete the following reactions :

(a) 

(b) 

7. Give the mechanism of the following reactions :

   (a) Ene reaction

   (b) Aza-Cope reaction

8. Explain classical and non-classical carbonium ion with suitable examples.

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