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MSCCH-507

Organic Chemistry-II

M.Sc. Chemistry (MSCCH)

2nd Semester Examination, 2023 (June)

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 answer 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)

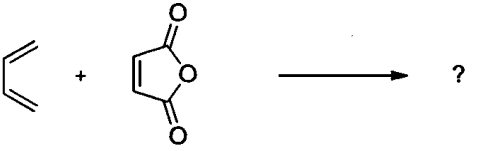
1. Explain 3,3-Sigmatropic rearrangement with molecular orbital diagram.

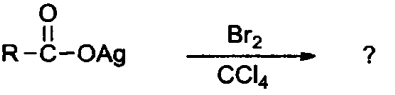
2. Write notes on the following :

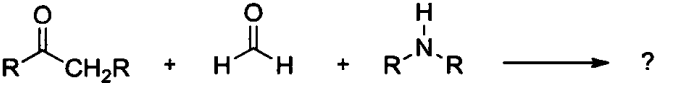
(a) Claisen rearrangement.

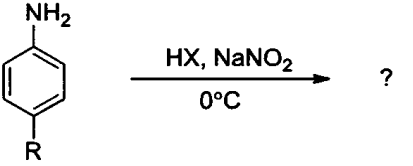
(b) Wittig reaction.

3. Complete the following reactions :

(a) 

(b) 

(c) 

(d) 

4. Write notes on the following :

(a) Knoevenagel reaction.

(b) Micheal addition reaction.

5. Write notes on the following :

(a) FMO theory of electrocyclic reactions of 4n system.

(b) Ene reaction.

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

2. Explain Smile rearrangement with suitable examples.

3. Explain addition-elimination mechanism of aliphatic electrophilic substitution reactions.

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

5. Write down the mechanism of Villsmeir reaction.

6. What is the difference between Saytzeff and Hoffman elimination?

7. Explain Hydroboration oxidation reactions of alkene.

8. Write notes on the following :

(a) Conrotation and disrotation.

(b) Hydrogenation of double bond.