

S-452

Total Pages : 3

Roll No.

MCH-602

Synthetic Organic Chemistry-I

M.Sc. Chemistry (MSCCH)

3rd Semester Examination, 2022 (Dec.)

Time : 2 Hours]

[Max. Marks : 35

Note : This paper is of Thirty Five (35) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein.

SECTION-A

(Long Answer Type Questions)

Note : Section 'A' contains Five (05) long answer type questions of Nine and Half ($9\frac{1}{2}$) marks each. Learners are required to answer any Two (02) questions only.
($2 \times 9\frac{1}{2} = 19$)

1. What is protecting group? Describe the role of protecting group in organic synthesis. Discuss amino protecting group.
($9\frac{1}{2}$)

2. Explain the use of fragmentation reaction in carbon-carbon double bond formation with examples. (9½)

3. Discuss the mechanism of the following reactions :
 - (a) Suzuki Coupling.
 - (b) Robinson annulation. (5+4½)

4. Write notes on the following :
 - (a) Functionalization of alkynes.
 - (b) Functionalization of aromatic compounds. (5+4½)

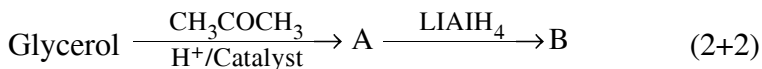
5. Discuss oxidation of alcohols with the following reagents :
 - (a) Chromic acid.
 - (b) Chromium IV oxide.
 - (c) Alkoxyulphonium salts. (3+3+3+2)

SECTION-B

(Short Answer Type Questions)

Note : Section 'B' contains Eight (08) short answer type questions of Four (04) marks each. Learners are required to answer any Four (04) questions only. (4×4=16)

1. Identify 'A' and 'B' in the following reaction :



2. Write the important applications of trimethyl silyl iodide. 4
 3. Write a note on oxidation of boranes to alcohols. 4
 4. Discuss cope elimination with a suitable example. 4
 5. What is dissolving Metal Reduction? Discuss Birch Reduction by taking example of the anisole. 4
 6. Write a note on benzylic oxidation. 4
 7. Write short notes on :
 - (a) Oppenauer oxidation.
 - (b) Swern oxidation. (2+2)
 8. Discuss the mechanism of homogeneous hydrogenation. 4
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