

K-408

Total Pages : 3

Roll No.

MCH-607

SYNTHETIC ORGANIC CHEMISTRY-II

M.Sc. Chemistry(MSCCH)

4th Semester Examination, 2023 (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. 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 Nine and Half (9½) marks each. Learners are required to answer any Two (02) questions only.

(2×9½=19)

1. Define the terms chemoselectivity, regioselectivity and stereoselectivity. Discuss the use of these concepts in designing the synthesis of target molecules by taking appropriate examples.
2. Define in brief :
 - (a) Cram's chelate model with suitable example.
 - (b) Felkin-Anh model with suitable example.
3. Explain the term C-X disconnection. Write briefly the retrosynthetic and synthetic methods for alcohols and carbonyl compounds.
4. Explain the following terms with suitable examples :
 - (a) Functionalisation.
 - (b) Synthons.
 - (c) Synthetic equivalent.
5. Explain with suitable example synthetically useful disconnections of 1,2 and 1,3 dicarbonyl derivatives.

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. How to determine the enantiomer composition with the help of NMR spectroscopy method?

2. Write a short notes on Meerven -Pondroff - Verley reaction.
 3. What is reversal of polarity? Explain with suitable example.
 4. Define the following :
 - (a) Enantiotopic faces.
 - (b) Homotopic faces.
 5. Explain 1,4 -asymmetric induction with a suitable example.
 6. Write a short note on sharpless epoxidation.
 7. Write the mechanism of elemention reduction with suitable example.
 8. Explain asymmetric Diesl-Alder reaction with suitable example.
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