

**P-929**

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## **MCH-502**

### **Organic Chemistry-I**

M.Sc. Chemistry (MSCCH)

1st Semester Examination, 2023 (June)

**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 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 Nine and Half (9½) marks each. Learners are required to answer any Two (02) questions only.

(2×9½=19)

1. Give the different type of molecular representation and also discuss classification of stereoisomers.
2. Discuss neighbouring group participation by suitable examples.
3. Discuss markovnikov and antimarkovnikov rule by suitable examples.
4. Give the mechanism of any of following *three* reactions :
  - (a) Von richter rearrangement.
  - (b) Sommelet-Hauser rearrangement.
  - (c) Diazo transfer reaction.
  - (d) Hydroboration oxidation.
5. Discuss axial and planer chirality in detail.

### 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. What do you mean by enantiomers and diastereomers? Give examples.

2. Explain the chirality in allenes.
  3. Discuss E, Z nomenclature by giving suitable examples.
  4. Explain axis of symmetry by examples.
  5. Discuss theoretical explanation of markovnikov rule.
  6. Explain Sharpless Asymmetric Epoxidation.
  7. Discuss  $S_N1$  and  $S_N2$  reactions.
  8. Discuss aromatic nucleophilic substitution reaction via benzyne.
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