K26P 1176

Reg. No. : .....

Name : .....

Second Semester M.Sc. Degree (CBCSS – OBE-Reg./Supple./Imp.) Examination, April 2026
(2023 Admission Onwards)
CHEMISTRY/CHEMISTRY WITH DRUG CHEMISTRY SPECIALIZATION
MSCHE02C10/MSCHD02C10 : Organic Chemistry – II

Time : 3 Hours Max. Marks : 60

SECTION – A

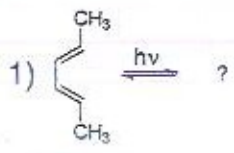
Short answer questions. Answer **any five** questions. **Each** question carries **three** marks.

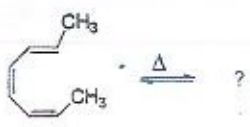
1. Define stereoselectivity.
2. What are the different classes of pericyclic reactions ?
3. Distinguish between configuration and conformation.
4. Define optical purity.
5. Illustrate conformational rigidity with a suitable example.
6. Define diastereomeric excess. **(5×3=15)**

SECTION – B

Paragraph questions. Answer **any three** questions. **Each** question carries **six** marks.

7. Complete the following conversions.

1) 

2) 

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8. Derive Woodward-Hoffmann selection rules for [3, 3] sigmatropic reactions.
9. Explain the conformational behavior of monosubstituted cyclohexanes.
10. Which hydroxylation gives anti-diols, Prevost or Woodward ? Justify your answer.
11. Explain the need for asymmetric synthesis in modern organic chemistry. **(3×6=18)**

SECTION – C

Essay type questions. Answer **any three** questions. **Each** question carries **nine** marks.

12. Discuss the use of LAH, DIBAL and sodium borohydride as reducing agents with suitable examples.
13. Explain how the correlation diagram approach is used for predicting cycloaddition reactions.
14. Discuss the stereochemistry of fused, bridged and caged ring systems with reference to decalins, norbornane and adamantane.
15. Describe briefly any three different types of chirality and explain the assignment of R and S configurations using CIP rules.
16. Discuss the synthetic applications of the reagents : Gillman's reagent, Bakers yeast and 1,3-dithianes. **(3×9=27)**