

M.Sc. Semester - 4 (CBCS) Examination

March/April- 2019

ADVANCED STEREO CHEMISTRY

(ELECTIVE - 1)

Time: 2:30 Hours

Marks: 70

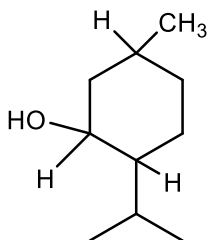
Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

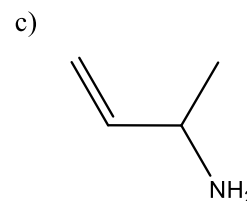
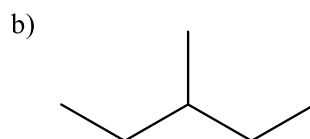
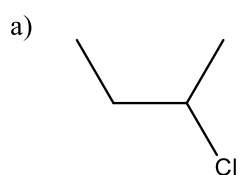
Q 1. Answer the following: (Any seven out of Ten questions- 02 marks each)

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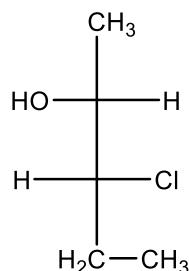
1. Define stereochemistry and stereoisomer.
2. Give classification of isomers.
3. Define Enantiomer and Diastereomer with example.
4. Define stereoselective polymerization.
5. Discuss Asymmetric synthesis.
6. Assign chiral carbon in following compound



7. Which one of the following is Achiral molecule?



8. Assign R & S configuration to following



9. Which of the following Dimethyl substituted cyclohexane is optically active and stable ?
a) Cis 1,4-Dimethyl cyclohexane b) Cis 1,2-Dimethyl cyclohexane
10. Enlist factors affecting to S_N1 reaction

Q 2. Answer the following: (Any Two out of Three questions- 07 marks each)

14

1. Discuss stereochemistry of Spiran and hemispiran molecules.
2. Explain NGP in 3-Bromo-2-butanol
3. Discuss conformational analysis of 1,3 and 1,2 Dimethyl cyclohexanes.

Q 3. Answer the following

14

1. Define Optical activity and Dextrorotatory and Levorotatory with example.
2. Explain Ambident nucleophile with example.

OR

Q 3. Answer the following (07 marks each)

14

1. Discuss stereochemistry of Sulfur compounds with example.
2. Explain factors affecting to SN^2 reaction.

Q 4. Answer the following:

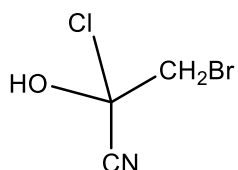
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Any two out of three questions (5 Marks each)

1. Write a note on stereochemistry of Biphenyl compounds.
2. Discuss stereochemistry of SN^1 reaction and draw energy diagram
3. Discuss stereochemistry of Allenes with example

Any one out of two questions (4 mark)

1. Describe Mixed SN^1 & SN^2 reaction.
2. Draw the following compound into fisher projection and then assign R & S configuration to each stereo center.



Q 5. Answer the following: (Any Two out of Four questions- 07 marks each)

14

1. Discuss stereo regulators polymerization.
2. Write a note on stereochemistry of Phosphorus.
3. Discuss stereochemistry of SN^2 reaction and draw energy diagram.
4. Draw the following compounds into Wedge-dash formula and then assign R & S configuration to each stereo center.

