

Home Assignment (2nd Semester)

Total Marks - 25

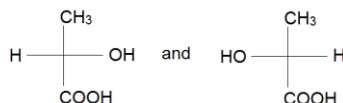
1. Draw the possible conformers of n-butane. Designate each of the conformers. Arrange the conformers in order of decreasing stability. Identify the least stable conformer and assign reason for it being least stable. Draw the potential energy diagram to show the variation of energy for the various conformers.

2+2+1+1+2+2

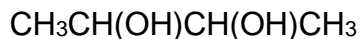
2. Why is the chair form of cyclohexane more stable than the boat form? Draw the various chair forms of methylcyclohexane. Identify the stable one and give reasons for your answer.

2+1+2

3. Give the R and S designations to the following pair of optical isomers: 1+1



4. Draw the Newman projection formula for the eclipsed conformation of the compound



with C₂-C₃ bond as the projected bond.

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5. **Hydroboration-oxidation** reaction is an example of **anti-Markownikoff** addition. Explain with the help of an example and mechanism.

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6. Write short notes on Wurtz reaction.

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