

Model Question Paper

DSPM UNIVERSITY, RANCHI
B.Sc. (H), Semester-II
Paper- BRH Chemistry- IV (OLD)

- Q-1. Describe the mechanism of formation of cycloalkanes by Diel's Alder reaction and Simmons-Smith reaction.
- Q-2. Discuss the mechanism of alkenes hydration by oxymercuration-demercuration reaction. Name four alkene polymers and their uses?
- Q-3. Drive the concept of entropy from the second law of thermodynamics. Show that entropy is a state function.
- Q-4. Discuss the mechanism of:
- a) Birch's reaction
 - b) Process of sp hybridization in alkynes
 - c) E, Z system of stereochemistry in alkenes based on Cahn–Ingold–Prelog sequence rules
 - d) Synthesis of DDT and BHC.
- Q-5. Explain the following terms:
- a) Second law of thermodynamics
 - b) Carnot cycle
 - c) Gibb's free energy
 - d) Entropy change in ideal gases
- Q-6. Write short notes having suitable examples on:
- a) The Saytzeff rule
 - b) The Markownikoff's rule
- Q-7. Discuss the mechanism of alkenes hydroboration–oxidation reaction.
- Q-8. What do you know about Hückel's rule of aromaticity? Discuss the mechanism of Friedel-Craft's alkylation and acylation reaction.
- Q-9. What do you understand by the term enthalpy? Calculate the work done in the expansion of 3 moles of hydrogen reversibly and isothermally at 27 °C from 21.0 litres to 70.3 litres.