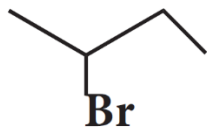


I. Answer in brief (2/3 marks)

- Why chlorination of methane is not possible in dark?
- How will you prepare n propyl iodide from n-propyl bromide?
- Which alkyl halide from the following pair is i) chiral ii) undergoes faster S_N2 reaction?



- How does chlorobenzene react with sodium in the presence of ether? What is the name of the reaction?
- What happens when acetyl chloride is treated with excess of CH₃MgI?
- What happens when chloroform reacts with oxygen in the presence of sunlight?
- Write a chemical reaction useful to prepare the following:
 - Freon-12 from Carbon tetrachloride
 - Carbon tetrachloride from carbon disulphide
- What are Freons? Discuss their uses and environmental effects

II. Answer in a paragraph (5 marks)

- Mention any three methods of preparation of haloalkanes from alcohols.
- Compare S_N1 and S_N2 reaction mechanisms.
- Reagents and the conditions used in the reactions are given below. Complete the table by writing down the product and the name of the reaction.

Reaction	Product	Name of the reaction
$\text{CH}_3\text{CH}_2\text{OH} + \text{SOCl}_2 \xrightarrow{\text{pyridine}} ?$	-----	-----
$\text{CH}_3\text{CH}_2\text{Br} + \text{AgF} \longrightarrow ?$	-----	-----
$\text{C}_6\text{H}_5\text{Cl} + \text{Na} \xrightarrow{\text{ether}} ?$	-----	-----

- Explain the mechanism of S_N1 reaction by highlighting the stereochemistry behind it.

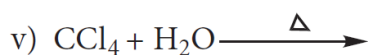
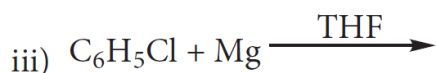
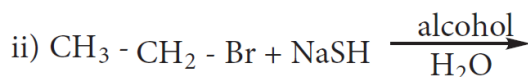
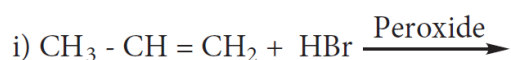
5. Write short notes on the following

- i. Raschig process
- ii. Dows Process
- iii. Darzens process

6. Starting from CH_3MgI , How will you prepare the following?

- i. Acetic acid
- ii. Acetone
- iii. Ethyl acetate
- iv. Iso propyl alcohol
- v. Methyl cyanide

7. Complete the following reactions



8. Explain the preparation of the following compounds

- i) DDT ii) Chloroform iii) Biphenyl iv) Chloropicrin v) Freon-12

9. An organic compound (A) with molecular formula $\text{C}_2\text{H}_5\text{Cl}$ reacts with KOH gives compounds (B) and with alcoholic KOH gives compound (C). Identify (A), (B), and (C)