



CHEMISTRY

BOOKS - OSWAAL PUBLICATION CHEMISTRY (KANNADA ENGLISH)

HALOALKANES & HALOARENES

**Topic 1 Some Important Terms And Definitions
Very Short Answer Type Question**

1. What is optical activity ? Explain.



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2. What do you mean by chirality centre ?



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3. Write IUPAC name of

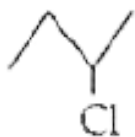


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4. Write the structure of p-Bromochlorobenzene.

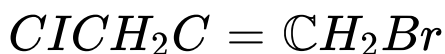
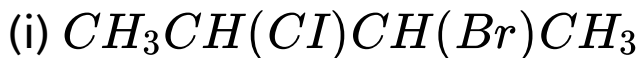
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5. Identify the chiral molecule in the following pair.



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6. Give IUPAC name of the following compound.



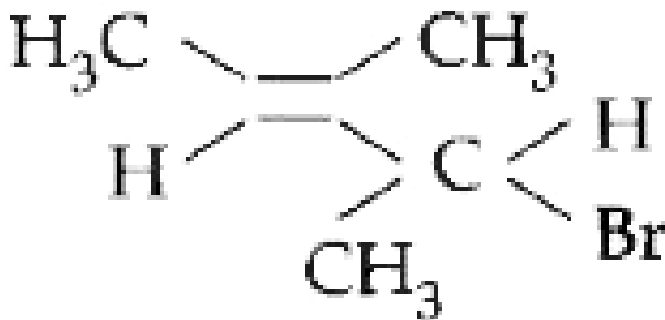
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7. Write the structure of the compound 4-ter-butyl-3-iodoheptane.



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8. Give the IUPAC name of the following compound.



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9. What do you mean by Enantiomers ?



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10. Define plane polarised light.

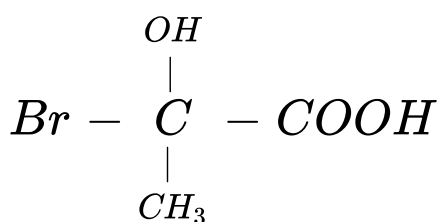
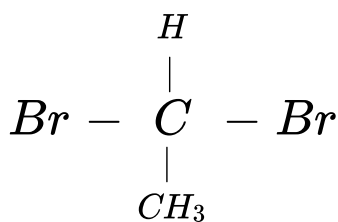


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Topic 1 Some Important Terms And Definitions

Short Answer Type Questions

1. What is optical activity ? Which one of the following compounds shows optical isomerism ?





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2. Write structures of different dihalogen derivatives of propane.



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3. Write structures of the following compounds.

(i) 2-chloro-3-methylpentane

(ii) 1,4-Dibromobut-2-ene



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4. Write the isomers of the compound having formula C_4H_9Br .



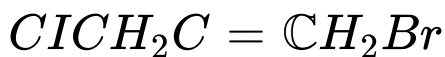
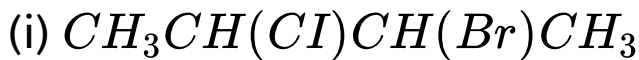
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5. What are ambident nucleophiles ? Explain write an examples too.



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6. Give IUPAC name of the following compound.



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7. Which one of the following has highest dipole moment ?



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8. Why the dipole moment of chlorobenzene is lower than that of cyclohexyl chloride ?



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9. Why alkyl halides, though polar, are immiscible with water ?



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**Topic 1 Some Important Terms And Definitions
Long Answer Type Questions I**

1. Write the structure formula and IUPAC name of.

(i) Iso - butyl chloride

(ii) Tert - amyl bromide

(iii) Sec-butyl chloride



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2. Write structures of the following compounds.

(i) 2. Chloro - 3 - methylpentane

(ii) 1. Chloro - 4-ethylcyclohexane

(iii) 4. tert. Butyl - 3 - iodoheptane



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3. Write the chain isomers of the compound having formula $C_5H_{11}Cl$. Give their IUPAC names also.



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1. Write structures of the following compounds.

(i) 2. Chloro - 3 - methylpentane

(ii) 1. Chloro - 4-ethylecyclohexane

(iii) 4. tert. Butyl - 3 - iodoheptane



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Topic 2 Properties Of Haloarenes And Haloalkanes Very Short Answer Type Questions

1. Name the organic compound formed when chlorobenzene is treated with sodium in dry ether.



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2. Name the alkene formed when ethyl bromide is heated with alcoholic KOH.



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3. Write the general equation for the formation of Grignand reagent.



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4. Name the reagent used in the dehydrohalogenation of haloalkanes.



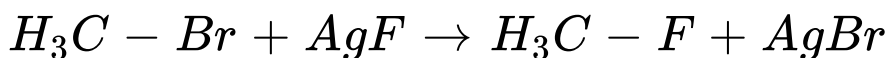
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5. Name the gas liberated when bromo ethane is heated with alcoholic potash.



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6. Name the Following reaction.



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7. Name the main product formed when bromoethane is treated with sodium metal in dry ether



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Topic 2 Properties Of Haloarenes And Haloalkanes Short Answer Type Questions

1. Explain Williamson's reaction. Write the general equation.



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2. Write equations for the steps in S_N1 mechanism of conversion of tertiary butyl bromide into tertiary butyl alcohol.



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3. Write mechanism involved in the reaction between tert. butyl bromide and aqueous KOH.



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4. Write the equations for the rate determining step involved in the mechanism of the hydrolysis of tert, butyl bromide.



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5. Explain the reaction between methyl iodide and magnesium metal.



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6. How is ethyl bromide converted into ethylbenzene by Friedel - Crafts reactions ?

Give the equations.



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7. Identify and write the organic compounds A

and B. $CH_4 + Cl_2 \xrightarrow{\text{Sun light}} A \xrightarrow{\text{Na metal}} B$.



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8. (a) Explain SN^1 mechanism by taking tertiary butyl bromide as an example.

(b) What is Wurtz Fitting's reaction? Give an example.



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9. What is wurts-Fitting reaction ? Give general equation.



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10. What happens when bromoethane is heated with alcoholic potash ? Give equations.



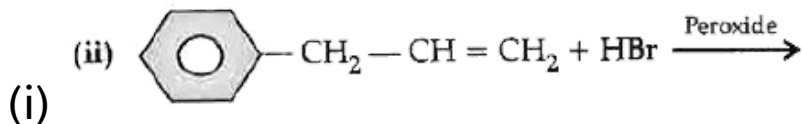
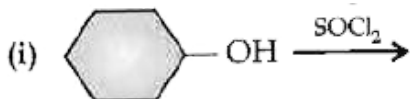
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11. Give two differences between $S_N - 1$ and $S_N - 2$ mechanism.



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12. Draw the structure of major mono halo product in each of the following reactions :



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13. Do the following conversions :

(i) Methyl bromide to acetone

(ii) Benzyl chloride to 2-phenylacetic acid.



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14. Give chemical tests to distinguish between the following pairs of compounds :

(i) Benzyl chloride and chlorobenzene

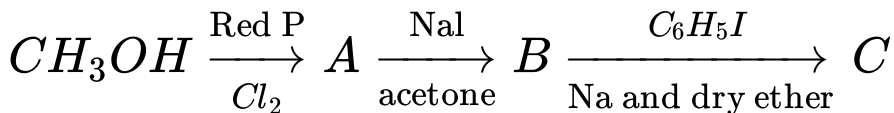
(ii) Chloroform and carbon tetrachloride.



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Topic 2 Properties Of Haloarenes And Haloalkanes Long Answer Type Questions I

1. Identify the products A, B and C in the following equation.



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2. Halo arenes are less reactive towards nucleophilic substitution reaction than halo alkanes. Give reason.



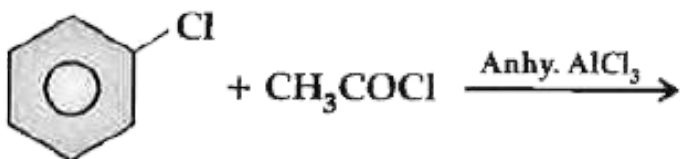
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3. Explain $S_N - 2$ reaction mechanism ?

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4. Mention the major product formed by the following reacton:

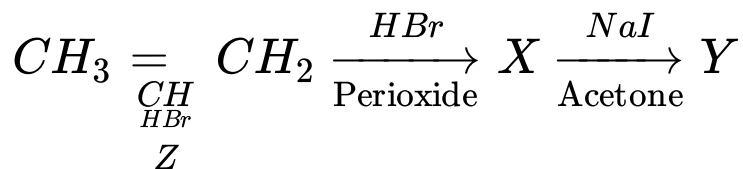
(a) 2 - Bromo pentane $\xrightarrow[\text{Heat}]{\text{KOH(Alc.)}}$



(c) $\text{C}_2\text{H}_5\text{Br} + \text{AgCN} \xrightarrow{\text{Heat}}$

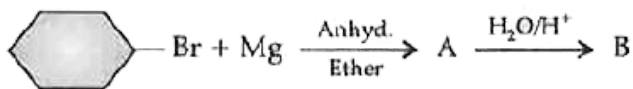
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5. Complete the following reaction.



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6. Identify A and B in the following :



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Topic 2 Properties Of Haloarenes And Haloalkanes Long Answer Type Questions II

1. Do the following conversions :

(i) Toluene to benzyl alcohol

(ii) Ethanol to but - 2 - yne

(iii) Ethanol to propane nitrile

(iv) Propane to propan-1-ol

(v) Ethyl chloride to propanoic acid.



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