DEPARTMENT OF CHEMISTRY

**CLASS XII**

**CHAPTER- HALOALKANES AND HALOARENES WORKSHEET- 2**

1. A solution of KOH hydrolyses CH3CHClCH2CH3 and CH3CH2CH2CH2Cl. Which

one of these is more easily hydrolyzed? (2010)

1. Draw the structure of the following compound:

4- Bromo-3-methylpent-2-ene (2010)

1. Write a chemical test to distinguish between:
   1. Chlorobenzene and Benzyl chloride
   2. Chloroform and carbon tetrachloride (2011)
2. An optically active compound having molecular formula C7H15Br reacts with aq. KOH to give a racemic mixture of products. Write the mechanism involved for the reaction.
3. Arrange in increasing order of property mentioned giving reasons:
   1. Ethanol and ethyl chloride ( solubility in water)
   2. 2-Bromo-2-methylbutane, 1-bromopentane, 2-bromopentane (reactivity towards SN2)
4. Explain why?
   1. Dipole moment of Chlorobenzene is lower than that of Cyclohexylchloride.
   2. Alkyl halides, though polar are immiscible with water.
   3. p-Dichlorobenzene has higher melting point and lower solubility than those of o and m-isomers.
5. How would you differentiate between SN1 and SN2 mechanisms of substitution reactions? Give one example of each. (2010)
6. Write short note on the following:
   1. Sandmeyer reaction
   2. Finkelstein reaction
   3. Wurtz reaction.
7. What happens when
   1. Ethyl chloride is treated with NaI in the presence of acetone
   2. Chlorobenzene is treated with Na metal in the presence of dry ether
   3. Methyl chloride is treated with KNO2 ?

Write chemical equations in support of your answer. (2015)

1. Give the IUPAC name of the following:
   1. a) (CH3)3CCH2CH(Br)C6H5
   2. b) CH3C(C2H5)2CH2Br
   3. c) CH3CH=C(Cl)CH2CH(CH3)2
2. Give reasons:

d) CHF2CBrClF

e) (CH3)3CCH=CClC6H5

* 1. Alkyl halides have higher boiling points than corresponding hydrocarbons.
  2. Benzylic and allylic halides follow SN1 mechanism.
  3. Halogens are deactivating but ‘o, p’ directive.
  4. Presence of electron withdrawing groups on benzene ring increases tendency of SN reaction.
  5. Haloalkanes are more reactive than haloarenes towards nucleophilic substitution reactions.

1. Bring about the following conversions:
   1. Benzene to 4-bromonitrobenzene
   2. Benzyl alcohol to 2-phenylethanoic acid
   3. Toluene to benzylalcohol
   4. Propene to 1-propanol
   5. Chlorobenzene to toluene

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