

CLASS : XIIth DATE :

## SOLUTION

SUBJECT : CHEMISTRY DPP NO. :3

# Topic :-HALOALKANES AND HALOARENES

## 2 **(d)**

The density order is:

Iodine > Bromide > Chloride > Fluoride.

Higher is the molecular weight, more is b.p, m.p.

#### 3 **(b)**

 $4C_2H_5Br + 4Na - Pb \rightarrow (C_2H_5)_4Pb + 4NaBr$ 

## 7 (c)

Follow iodoform test.

#### 8 **(a)**

Chloral + Chlorobenzene  $\rightarrow$  DDT

#### 10 **(a)**

 $CH_3C \equiv CNa + (CH_3)_2 CHCl \rightarrow CH_3C \equiv CCH(CH_3)_2 + NaCl$ 

## 11 **(d)**

Solvolysis of haloalkanes follows first order kinetics. During this process an intermediate carbocation is formed. Therefore, the halohydrocarbon which gives more stable carbocation undergoes solvolysis readily.

#### 13 **(d)**

 $CCl_4$  is a covalent compound, therefore, it does not ionise to give  $Cl^-$  ions hence, it does not give white ppt. of AgCl when treated with AgNO<sub>3</sub> soution. There is no reaction to evolve NO<sub>2</sub>.  $CCl_4$  will form a separate layer as it is immiscible with water.

## 14 **(a)**

C - X bond in benzyl bromide is much weaker than in vinyl bromide and bromobenzene since the benzyl cation left after the removal of the bromide ion is stabilized by resonance. Further, C-Br is weaker than C-Cl bond. Therefore,  $C_6H_5CH_2Br$  has the weakest C-X bond.

1. 2-methylpentane  $\xrightarrow{Cl_2}$  five types of monochlorinated compounds

- 2. 3-methylpentane  $\xrightarrow{Cl_2}$  four types of monochlorinated compounds
- 3. 2, 2-dimethylbutane  $\xrightarrow{Cl_2}$  three types .....
- 4. 2, 3-dimethylbutane  $\xrightarrow{Cl_2}$  two types ....

*n*-hexane  $\xrightarrow{Cl_2}$  three types .... 5.

#### 16 (c)

Ethanol on reaction with bleaching powder, gives chloroform (trichloromethane).  $CaOCl_2 + H_2O \rightarrow Ca(OH)_2 + Cl_2$  $C_2H_5OH \ + \ Cl_2 \rightarrow CH_3CHO \ + \ 2HCl$  $CH_3CHO + 3Cl_2 \rightarrow CCl_3 . CHO + 3HCl$  $2\text{CCl}_3$ . CHO + Ca(OH)<sub>2</sub>  $\xrightarrow{\text{Chloral}}$   $2\text{CHCl}_3$  + (HCOO)<sub>2</sub>Ca chloroform 17 (c)  $C_2H_5ONa + C_2H_5I \rightarrow C_2H_5OC_2H_5 + NaI;$  Williamson's synthesis.

 $CH_{3}Br + KCN(alc.) \rightarrow CH_{3}CN \xrightarrow{\text{Reduction}} CH_{3}CH_{2}H_{5}OH$ ethylamine

#### 19 (d)

Ethyl chloride can be converted into ethanol either by its alkaline hydrolysis or by its reaction with moist AgOH.

$$C_{2}H_{5}Cl \xrightarrow{Aq.NaOH}{\Delta} C_{2}H_{5}OH \xleftarrow{AgOH}{C_{2}H_{5}Cl} (A) (B)$$
20 (d)
$$CH_{3}CH_{2}CH_{2}CH_{2}OH \xrightarrow{P+Br_{2}}{CH_{3}CH_{2}CH_{2}CH_{2}Br}$$
reduction of alkyl halide with Na

ANSWER-KEY										
Q.	1	2	3	4	5	6	7	8	9	10
<b>A.</b>	С	D	В	А	С	C	С	А	А	А
Q.	11	12	13	14	15	16	17	18	19	20
<b>A.</b>	D	A	D	A	С	C	C	С	D	D

