DPP
DAILY PRACTICE PROBLEMS

CLASS : XIIth
DATE :

SOLUTION

SUBJECT : CHEMISTRY
DPP NO. :1

Topic :-HALOALKANES AND HALOARENES

1 **(a)**

$$C_2H_5Cl + KCN \xrightarrow{C_2H_5OH} \underset{(X)}{C_2H_5CN} + KCl$$

$$C_2H_5CN \xrightarrow[\Delta]{H_3O^+, 2H_2O} \underset{(Y) \text{ or } (C_3H_6O_2)}{C_2H_5COOH} + NH_3$$

So, the molecular formula of the Y is $C_3H_6O_2$.

2 **(a)**

When ethyl bromide reacts with alcoholic KCN, propane nitrile is obtained as main product.

$$C_2H_5Br + \text{Alc. KCN} \rightarrow \underset{\text{propane nitrile}}{C_2H_5CN}$$

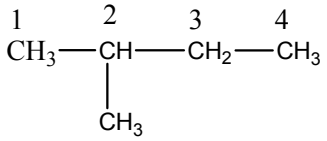
4 **(d)**

Carbylamine reaction is characteristic reaction for primary amine and chloroform.

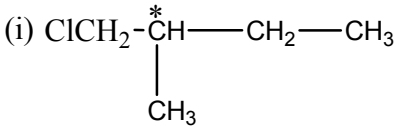
5 **(a)**

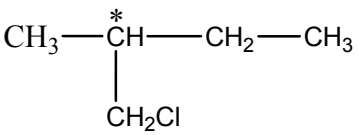
$$4C_2H_5Br + 4Na - Pb \longrightarrow (C_2H_5)_4Pb + 4NaBr$$

6 **(d)**

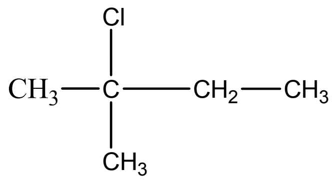
(1) 

Its monochloro derivatives are follows

(i) 

or 

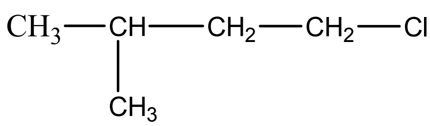
It will exist as enantiomers pair *d* and *l*-forms

(ii) 

no asymmetric C atom

(iii) $CH_3 - CH - CH - CH_3$, with Cl on the third carbon and CH_3 on the second carbon

It will exist as enantiomeric pair (d-and l- forms)

(iv) 

No asymmetric carbon atom

Hence, only two enantiomeric pairs will be obtained by the monochlorination of 2-methylbutane.

7 **(d)**

$RX + \underset{\text{(Ether)}}{Ag_2O} \longrightarrow R \cdot O \cdot R + 2AgX$

8 **(a)**

Williamson's synthesis

$C_2H_5ONa + ClC_2H_5 \rightarrow \underset{\text{diethyl ether}}{C_2H_5OC_2H_5} + NaCl$

9 **(c)**

$CaOCl_2 + H_2O \longrightarrow Ca(OH)_2 + Cl_2$ (Hydrolysis)

$Cl_2 + C_2H_5OH \longrightarrow CH_3CHO$ (Oxidation)

$CH_3CHO + Cl_2 \longrightarrow CCl_3CHO$ (Substitution)

$CCl_3CHO + Ca(OH)_2 \longrightarrow CHCl_3 + (HCOO)_2Ca$ (Hydrolysis)

10 **(a)**

Iodoform test is given by the compounds containing either

CH_3CO- roup or CH_3CHOH group.

The structures of the given compounds are as

1. $CH_3CH_2CH_2CH_2OH$
2. $CH_3COC_6H_5$
3. CH_3CHO
4. $CH_3COC_2H_5$

$\therefore$ n butyl alcohol does not give iodoform test because it does not possess the

CH_3CO- or CH_3CHOH group.

11 **(c)**

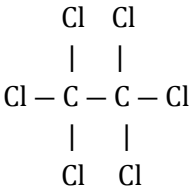
It is not a colouring material.

13 **(b)**

Alkyl halides are less soluble in water. They are polar but fail to form H-bonds with water.

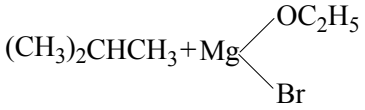
14 **(b)**

Hexachloroethane is also called artificial camphor. Its structure is



15 **(d)**

$$(CH_3)_2CHCH_2MgBr + HOC_2H_5 \xrightarrow{\text{Ether}}$$



17 **(b)**

Dipole moment of CH_3Cl is more than CH_3F due to larger C—*X* bond. Also electronegativity of Br being less than F and Cl and thus inspite of larger C—*X* bond dipole moment of CH_3Br is lowest.

19 **(a)**

$$CH_3-CH_2-CH_2-CH_2-Cl \xrightarrow[\Delta]{\text{Alc.KOH}} CH_3-CH_2-CH=CH_2 + HCl$$

1-chlorobutane butene-1

20 **(a)**

$$2CHCl_3 + 6Ag \xrightarrow{\Delta} CH \equiv CH + 6AgCl$$

ANSWER-KEY										
Q.	1	2	3	4	5	6	7	8	9	10
A.	A	A	A	D	A	D	D	A	C	A
Q.	11	12	13	14	15	16	17	18	19	20
A.	C	A	B	B	D	D	B	B	A	A