

CLASS: XIIth

DATE:

SOLUTION

SUBJECT: CHEMISTRY

DPP NO.:8

Topic:-HALOALKANES AND HALOARENES

1 **(d)**

Neo-pentane gives only one monochloro derivative.

$$\begin{array}{ccc} \text{CH}_3 & \text{CH}_3 \\ \mid & \mid \\ \text{CH}_3 - \text{C} - \text{CH}_3 + \text{Cl}_2 & \xrightarrow{\text{UV}} \text{CH}_3 - \text{C} - \text{CH}_2 \text{Cl} \\ \mid & \mid \\ \text{CH}_3 & \text{CH}_3 \end{array}$$

2 **(d)**

 $R - X + \operatorname{Zn} \to R - R + \operatorname{Zn} X_2$; if Zn is used in place of Na, the reaction is called Frankland's reaction.

4 (a)

A gem dihalide possesses two halogens on same carbon atom.

5 **(b**)

R —Mg*X* are obtained as ethereal solution.

6 **(a)**

Chloroform (CHCl₃) is formed on reaction of ethyl alcohol with bleaching powder. The reaction is complex and takes place in the following steps

(i)
$$CaOCl_2 + H_2O \rightarrow Ca(OH)_2 + Cl_2$$

bleaching

powder

(ii)
$$CH_3CH_2OH + Cl_2 \rightarrow CH_3CHO + 2HCl$$

oxidation step

(iii)
$$CH_3CHO + 3Cl_2 \rightarrow CCl_3CHO + 3HCl$$

chloral

chlorination step

(iv)
$$OH CCl_3 CHO$$
 $CHCl_3 + (HCOO)_2Ca$
 $CHCl_3 CHO$
 $CHCl_3 CHO$

7 **(a)**

Chloral is commercial name of CCl₃CHO.

8 **(d)**

C—I bond is broken easily as well as ease of reaction is t-alkyl halide > s-alkyl halide > p-alkyl halide.

9 **(b)**

$$N_2^+Cl^ Cu_2Cl_2/HCl$$
 $+N_2$
benzene
diazonium
chloride

This reaction is known as Sandmeyer's reaction.

10 **(b)**

(CH₃)₂CHCH₂Cl and CH₃CH₂CH₂CH₂Cl; only chain is different.

11 **(a)**

Nucleophilicity order is;

CH₃
$$\longrightarrow$$
 $\overset{\odot}{O}$ > H \longrightarrow $\overset{\odot}{O}$ > $\overset{\bullet}{H_3C}$ $\overset{\bullet}{C}$ onegative charge comparatively stable

14 (a)

CHCl₃ + RNH₂ + 3KOH \longrightarrow RNC

Foul smell

15 (a)

Zn dust removes X_2 from molecule.

17 **(d)**

Order of reactivity of alkyl halide

iodide > bromide > chloride > fluoride and tertiary > secondary > primary

18 **(b)**

$$R - X \xrightarrow{\text{KOH(aq.)}} R - OH$$
19 **(d)**

Reactivity of t-alkyl halides to show $S_N 2$ mechanism

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

