

Class: XIIth Date:

Solutions

Subject: CHEMISTRY

DPP No. : 6

Topic:- Aldehydes, Ketones & Carboxylic Acids

2 **(b)**

Grignard reagent = CH₃MgX

Clemmensen reduction=Zn - Hg/ConcHCl

Rosenmund reduction=H₂/Pd -BaSO₄

Wolff-Kishner reduction=N₂H₄/KOH/CH₂OH

CH₂OH

4 **(b)**

Decarboxylation of malonic acid give acetic acid and CO₂

$$CH_2 < COOH \longrightarrow CH_3COOH + CO_2$$
malonic acid

5 **(a)**

Amides, on treating with HNO_2 , give acids.

$$\mathsf{CH}_{3}\mathsf{CONH}_{2} \underbrace{\overset{\mathsf{NaNO}_{2}/\mathsf{HCl}}{(\mathsf{HNO}_{2})}} \mathsf{CH}_{3}\mathsf{COOH} + \mathsf{N}_{2} + \mathsf{H}_{2}\mathsf{O}$$

acetic acid

7 **(a)**

Acetyl nitrate is formed, when acetic anhydride reacts with nitrogen pentoxide.

$$\begin{array}{c} \text{CH}_3\text{CO} \\ \text{CH}_3\text{CO} \\ \text{acetic anhydride} \end{array} \xrightarrow{\begin{array}{c} \text{P} \\ \text{nitrogen} \\ \text{pentoxide} \end{array}} \begin{array}{c} \text{2CH}_3\text{CONO}_2 \\ \text{acetyl nitrate} \end{array}$$

8 **(b)**

Fenton's reagent is $FeSO_4 + H_2O_2$.

9 **(b)**

In Clemmensen's reduction

Zn — Hg/conc.HCl is used

$$C=0 + 4H\frac{Zn - Hg + conc. HCl}{CH_2 + H_2O}$$

This method is used to convert carbonyl compound into alkane.

Bezaldehyde does not yield a simple addition product with ammonia, but forms a complex product, hydrobenzamide (90%)

$$C_6H_5CHO \xrightarrow{NH_3} C_6H_5 - C - NH_2$$

$$-\text{H}_2\text{O}$$
 \sim C₆H₅-CH=NH

$$C_6H_5-CH=NH + HN = CH-C_6H_5 - NH_3$$

$$C_6H_5-CH=N$$
 $CH-C_6H_5$
 $C_6H_5-CH=N$

hydrobenzamide

14 **(a)**

The order of the acidic characters of acid derivative or their ease of hydrolysis with alkali is given below:

$$CH_3COCl > CH_3CO - O - COCH_3 > CH_3COOC_2H_5 > CH_3CONH_2$$

15 **(a**)

It is adipic acid.

17 **(b)**

19 **(d**)

Stearic acid ($C_{17}H_{35}COOH$), palmitic acid ($C_{15}H_{31}COOH$) and oleic acid ($C_{17}H_{33}COOH$; an unsaturated acid) are fatty acids.

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

