

Topic :- Aldehydes, Ketones & Carboxylic Acids

- 1 (c)
The solution produces CuO in it.
- 2 (b)
Stephen's reduction Aldehyde can be prepared from alkyl cyanides. *e.g.*,

$$\text{CH}_3 - \text{C} \equiv \text{N} + 2[\text{H}] \xrightarrow[\text{Ether}]{\text{SnCl}_2/\text{HCl}} \text{CH}_3 - \text{CH} = \text{NH} \cdot \text{HCl}$$

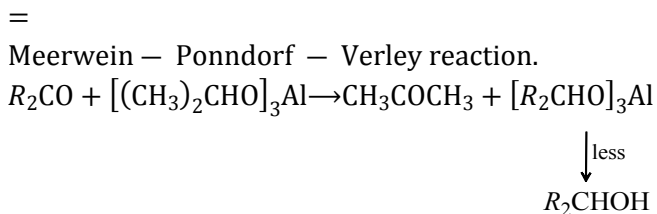
$$\downarrow \text{H}_2\text{O}/\text{H}^+$$

$$\text{CH}_3\text{CHO} + \text{NH}_4\text{Cl}$$
 acetaldehyde
- 3 (b)
Aldehydes, which have no α - hydrogen atom, undergo Cannizaro reaction in presence of conc. NaOH and yield an alcohol and an acid salt. (Disproportionation).

$$2\text{C}_6\text{H}_5\text{CHO} \xrightarrow{\text{NaOH}} \text{C}_6\text{H}_5\text{CH}_2\text{OH} + \text{C}_6\text{H}_5\text{COONa}$$
 benzaldehyde benzyl alcohol
- 5 (b)
 $\text{RCOOR}' + \text{NH}_3 \rightarrow \text{RCONH}_2 + \text{R}'\text{OH}$
- 6 (a)
 $\text{CH}_3\text{COCl} + \text{NaCOOCCH}_3 \rightarrow (\text{CH}_3\text{CO})_2\text{O} + \text{NaCl}$
- 7 (b)
 $\text{C}_2\text{H}_6 + \frac{7}{2}\text{O}_2 \rightarrow 2\text{CO}_2 + 3\text{H}_2\text{O}$
- 8 (c)

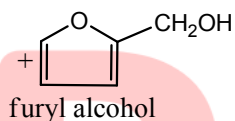
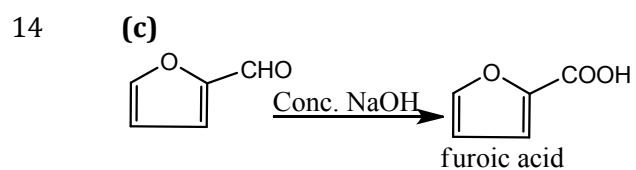
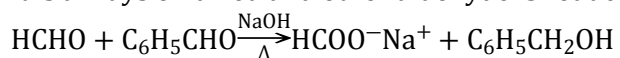
$$\text{CH}_3\text{CH}_2\text{COOH} \xrightarrow{\text{NH}_3} \text{CH}_3\text{CH}_2\text{CONH}_2$$
 Propionic acid propionamide
 (X)

$$\xrightarrow{\text{Br}_2 + \text{KOH}} \text{CH}_3\text{CH}_2\text{NH}_2 \xrightarrow{\text{HNO}_2} \text{CH}_3\text{CH}_2\text{OH}$$
 Ethyl amine ethyl alcohol
 (Y) (Z)
- 9 (a)
The acidic strength of dicarboxylic acids decreases as the number of methyl groups increases, because of their +I effect
- 10 (d)
Oppenauer oxidation;

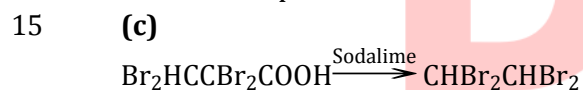


11 **(a)**
 Addition according to Markownikoff's rule.

12 **(a)**
 In Cannizaro reaction when formaldehyde reacts with other aldehydes lacking α -hydrogen, it is always oxidized and other aldehyde is reduced



It is an example of Cannizaro's reaction.



16 **(c)**
 All aldehydes reduce Fehling's solution to give red ppt. of Cu_2O .

18 **(b)**
 $CH_3CH_2CH_2COOCH_3$; has banana odour.

19 **(b)**
 This is internal Cannizzaro's reaction.

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

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