DPP
DAILY PRACTICE PROBLEMS

Class : XIIth
Date :

Solutions

Subject : CHEMISTRY
DPP No. : 8

Topic :- Aldehydes, Ketones & Carboxylic Acids

1 **(c)**

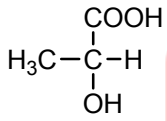
$2CH_3COOH \xrightarrow{P_2O_5} (CH_3CO)_2O + H_2O$

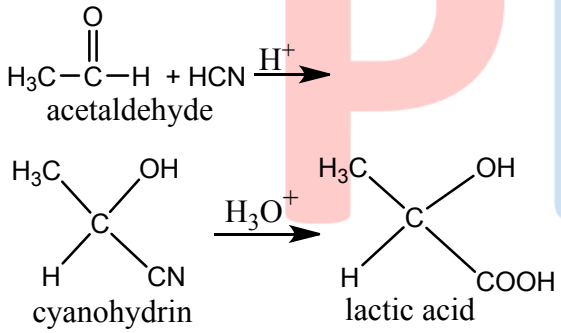
P_2O_5 acts as dehydrating agent.

4 **(c)**

Carbonyl compound + HCN→cyanohydrin $\xrightarrow{H_2O/H^+}$ hydroxy acid

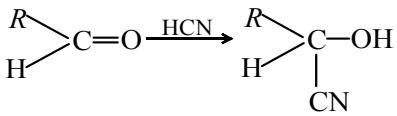
Latic acid is

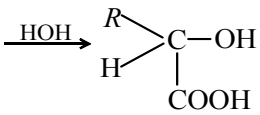




∴ Cyanohydrin of acetaldehyde forms lactic acid.

6 **(a)**





Carbon is asymmetric.

8 **(c)**

Carboxylic acids are prepared by reaction of Grignard reagent with CO_2.

∵ Formic acid (HCOOH)has only one carbon atom

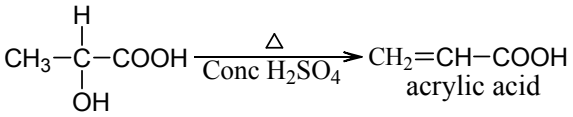
∴ Formic acid cannot be prepared from Grignard reagent.

$$R\text{Mg}X + CO_2 \rightarrow R - \underset{\underset{\text{O}}{\|}}{\text{C}} - \text{OMg}X \xrightarrow{\text{HOH}} R\text{COOH}$$

Grignard reagent acid

11 **(c)**

Lactic acid on heatng with conc. H_2SO_4 to give acrylic acid



lactic acid acrylic acid

12 **(d)**

When urea is heated it gives the biurate which give violet colour with $CuSO_4$ and NaOH.

16 **(a)**

An immiscible solvent is added to the solution. Some of the solute passes in this solvent maintaining Nernst distribution law $K = \frac{C_1}{C_2}$, where C_1 and C_2 are concentration of solute in two phases.

17 **(c)**

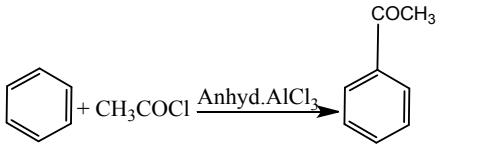
Electron withdrawing group (-Ieffect) stabilizes the anion, and thus increases acidic nature.

Thus (c), (d)> (a), (b) acidic

Farther the electron withdrawing group from the –COOH group, its effect in increasing acid strength decreases thus (c) with Cl at α — position is stronger than (d) with Cl at γ — position.

18 **(c)**

When, benzene is heated with acetyl chloride, in presence of anhydrous $AlCl_3$, electrophilic substitution takes place and acetophenone is obtained. The reaction is known as Friedel-Craft acylation.



methyl phenyl ketone
(acetophenone)

19 **(a)**

$$:6HCHO + 4NH_3 \rightarrow (CH_2)_6N_4 + 6H_2O$$

hexamethylene tetramine

20 **(a)**

4-methyl benzene sulphonic acid is stronger than acetic acid thus, it will release acetic acid from sodium acetate.

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