DPP
DAILY PRACTICE PROBLEMS

CLASS : XIIth
DATE :

SOLUTION

SUBJECT : CHEMISTRY
DPP NO. : 2

Topic :-ORGANIC CHEMISTRY - SOME BASIC PRINCIPLES AND TECHNIQUES

1 **(b)**

Such dehydrohalogenation follow E_2 mechanism. The driving force of such reaction is the stability of alkene produced. Since, tertiary alkyl halide can give more substituted alkene, it reacts fastest followed by secondary and primary *i.e.*, $3° > 2° > 1°$.

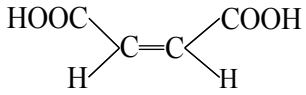
2 **(c)**

Central carbon atom is chiral carbon.

3 **(d)**

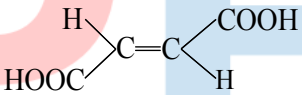
Those organic compounds, which are volatile in steam are purified by steam distillation. Since, aniline is a steam volatile compound, hence it is purified by steam distillation.

4 **(b)**



Maleic acid

and



Fumaric acid

are geometrical isomers.

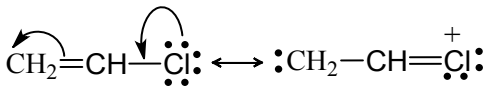
5 **(b)**

$C_6H_5O^-$ possess less nucleophilicity due to stabilized nature of phenoxide ion. CH_3OH is weaker acid than CH_3COOH and thus CH_3O^- is stronger base.

Acidic order : $CH_3COOH > H_2O > CH_3OH$

6 **(c)**

Vinyl chloride is least reactive for S_N reaction due to resonance



9 **(b)**

The chain propagation step involves the use of free radical and regeneration of another free radical.

10 **(b)**

CH_3NC is methaneisonitrile.

12 **(a)**

Benzyl carbonium is more stable due to resonance and thus, benzyl chloride is more reactive.

13 **(a)**

It is a fact.

14 **(b)**

$C_nH_{2n}O_2$ is general formula for open chain acid and ester.

$n = 3$ $C_3H_6O_2$

Acid $CH_3CH_2-\overset{\overset{O}{\|}}{C}-O-H$

Easter $CH_3-\overset{\overset{O}{\|}}{C}-O-CH_3$

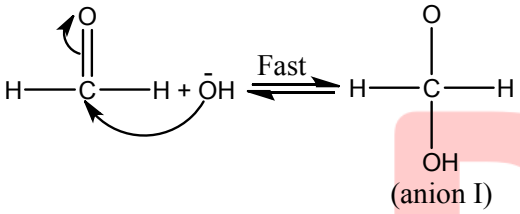
15 **(a)**

The Cannizzaro reaction is as

$$HCHO + HCHO \xrightarrow{KOH(conc.)} \underset{\text{methyl alcohol}}{CH_3OH} + \underset{\text{acetic acid}}{HCOOK^+}$$

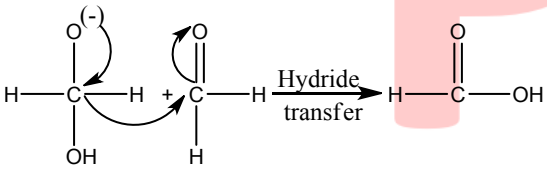
The mechanism of Cannizzaro reaction is as

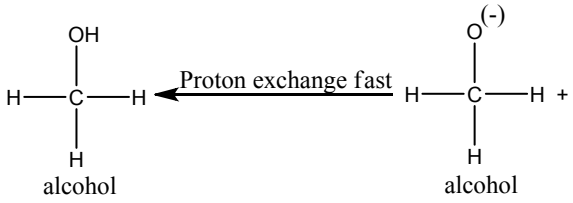
Step I Attack of nucleophile OH^- to the carbonyl carbon

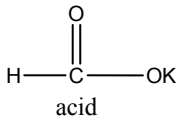


(anion I)

Step II The transfer of hydride ion from anion (I) to second molecule of aldehyde and finally rapid transfer of proton takes place.

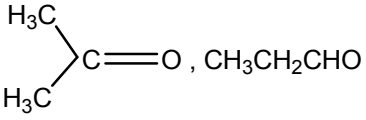






17 **(a)**

Propanal and propanone are functional isomers



18 **(a)**

It is a fact.

19 **(a)**

Angle strain, $\alpha = \frac{1}{2}[109°28' - \theta]$

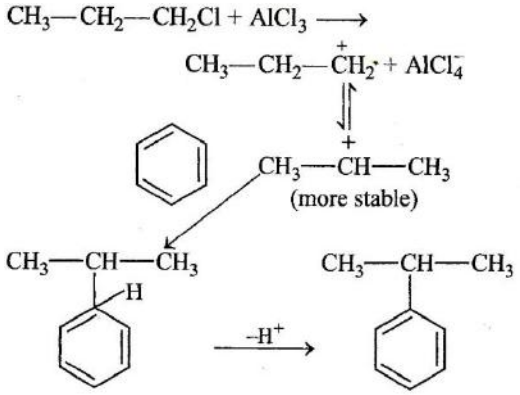
In case of cyclopropane,

$\theta = 60°$

$\therefore \alpha = \frac{1}{2}(109°28' - 60°) = 24°44'$

20 **(d)**

The function of $AlCl_3$, in Friedel-Craft reaction, is to produce electrophile, which later add to benzene nucleus



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