DPP
DAILY PRACTICE PROBLEMS

Class : XIIth
Date :

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Subject : CHEMISTRY
DPP No. : 3

Topic :- Alcohols, Phenols & Ethers

1 **(b)**
Zymase enzyme act on glucose and give ethyl alcohol and carbon dioxide.
$C_6H_{12}O_6 \xrightarrow{\text{Zymase}} \underset{\text{ethyl alcohol}}{2C_2H_5OH} + 2CO_2 \uparrow$

2 **(d)**
Only CH_2OH group is oxidized to —COOH; Double bond is not affected.

3 **(d)**
Both Zn-Hg/HCl and NH_2NH_2, OH^- reduce CO to CH_2, but acid sensitive reagents are not reduced by Zn-Hg/HCl.

4 **(b)**
Glycerol has 3 —OH groups and thus shows extensive H-bonding.

5 **(b)**
The best method to prepare cyclohexene from cyclohexanol is by conc. H_3PO_4 because in given options dehydrating agent is conc. H_3PO_4.

6 **(a)**
Diethyl sulphate in the presence of NaOH acts as alkylating agent, it causes alkylation of phenol to give ethyl phenyl ether which is also called phenetole.
$C_6H_5OH + NaOH \rightarrow C_6H_5O^-Na^+ + H_2O$
$C_6H_5O^-Na^+ + \underset{\text{diethyl sulphate}}{(C_2H_5)_2SO_4} \rightarrow \underset{\text{phenetole}}{C_6H_5OC_2H_5ph} + C_2H_5NaSO_4$

7 **(c)**
Tertiary alcohols are dehydrated on passing over heated Cu; Primary and secondary are dehydrogenated.

8 **(b)**
The process is called hydroboration.

9 **(b)**
Secondary alcohols give turbidity within 5 min with Lucas reagent

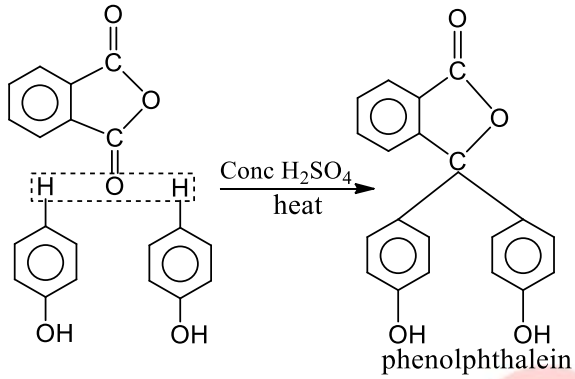
11 **(c)**
Diethyl ether itself being a Lewis base is not attacked by nucleophiles, *ie*, OH^- ion. All others contain an electrophilic carbon and are readily attacked by nucleophile

12 **(d)**
Ethers acts as Lewis base only towards strong acids.

14 **(d)**
When ethyl alcohol is heated with conc. H_2SO_4 at $160° - 170°C$, the product obtained is ethylene (C_2H_4).
$CH_3 - CH_2OH + H_2SO_4 \rightarrow \underset{\text{ethyl hydrogen sulphate}}{CH_3CH_2HSO_4} + H_2O$
$CH_3 - CH_2HSO_4 \xrightarrow[\Delta]{160-170°C} \underset{\text{ethylene}}{CH_2 = CH_2} + H_2SO_4$
But at lower temperature ether is formed.

15 **(a)**

Phenol is heated with phthalic anhydride in presence of conc H_2SO_4 to given phenolphthalein which gives pink colour with alkali



phenolphthalein

16 **(c)**

Large is H—X bond length, more is acidic nature of halogen acid.

17 **(c)**

Rectified spirit is C_2H_5OH + water mixture obtained after distillation of fermented liquid. On further careful fractional distillation (rectification) gives II fraction as 93 to 95% ethyl alcohol (rectified spirit).

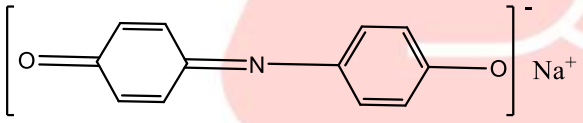
18 **(b)**

$C_6H_5MgBr + HOCH_3 \longrightarrow C_6H_6 + Mg(Br)OCH_3$

19 **(a)**

$\text{Phenol} \xrightarrow{NaNO_2/H_2SO_4} B \xrightarrow{H_2O} C \xrightarrow{NaOH} D$

This is Liebermann's nitroso reaction of phenol. When phenol is warmed with sodium nitrite and 1 cc. conc.H_2SO_4, blue colour is obtained which on adding water, becomes red. This again turns to blue on adding NaOH. Deep blue colour is due to the formation of sodium salt of indophenol.



sodium salt of indophenol (deep blue)

20 **(d)**

H_2SO_4 acts as catalyst as well as dehydrating agent for the reaction,

$CH_3COOH + HOC_2H_5 \xrightarrow{H_2SO_4} CH_3COOC_2H_5$

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