DPP
DAILY PRACTICE PROBLEMS

Class : XIIth
Date :

Solutions

Subject : CHEMISTRY
DPP No. : 6

Topic :- Alcohols, Phenols & Ethers

1 **(c)**

1° alkyl halides on treatment with an alkoxide ion tend to undergo substitution to form ethers. So sodium tert butoxide and ethyl bromide reagent is used

2 **(b)**

A mixture of H_2O_2 +$FeSO_4$ is called Fenton's reagent used as oxidant.

3 **(d)**

A simple ether is one which possesses same alkyl groups on O atom, *.e.*, ROR.

4 **(a)**

$CH_3OC_2H_5 + HI \longrightarrow CH_3I + C_2H_5OH$

$CH_3I + AgNO_3 \longrightarrow AgI + CH_3NO_3$

5 **(a)**

$C_2H_5OH + NH_3 \xrightarrow{Al_2O_3} C_2H_5NH_2 + H_2O$

6 **(c)**

Presence of two or more OHgp. on a carbon atom makes it unstable and compound loses H_2O molecule.

7 **(d)**

A mixture of conc. HCl+ anhy $ZnCl_2$ is called Lucas reagent. In Lucas test tertiary alcohols immediately give turbidity while secondary alcohols give turbidity after 5 min. Primary alcohols give no reaction with Lucas reagent at room temperature.

$CH_3OH/CH_3CH_2OH \xrightarrow{Conc.HCl + anhy\ ZnCl_2}$ No reaction

Primary alcohol

and hence, no white cloudiness on turbidity at room temperature.

$(CH_3)_2CHOH \xrightarrow{Conc.HCl + anhy\ ZnCl_2}$

Secondary alcohol

White cloudiness or turbidity appears within about 5 min.

$(CH_3)_3COH \xrightarrow{Conc.HCl + anhy\ ZnCl_2}$ White cloudiness

Tertiary alcohol

Or turbidity appears immediately.

8 **(d)**

To have tertiary alkyl-alkyl ether one needs sod. Tertiary alkoxide and alkyl halide.

9 **(c)**

Due to H-bonding.

10 **(c)**

Glyoxal is a trivial name for ethane-1-2-dial.

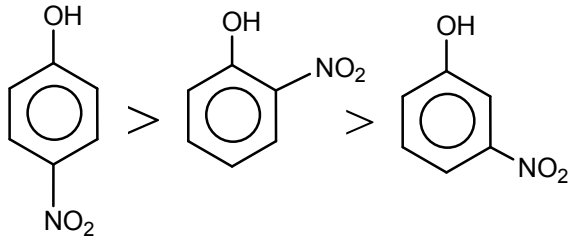
11 **(b)**

Ethyl alcohol is mixed with methyl alcohol to denaturate it in order to prevent its use for drinking purposes.

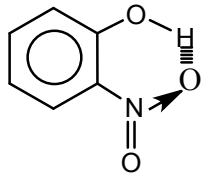
13 **(b)**

The density of glycerol is higher than propanol due to extensive intermolecular hydrogen bonding. Glycerol contains three –OH groups while propanol contains only one ■–OH group.

15 **(d)**



Due to *–I* and *–R* influence, NO_2 in *ortho*-position should have raised the acidity to the maximum extent. But it is due to intramolecular H-bonding, *ortho*-nitrophenol is less acidic than *para*-nitrophenol.



16 **(c)**

$CH_3OC_2H_5 + HI \longrightarrow CH_3I + C_2H_5OH$;

O-atom goes with higher alkyl gp.

17 **(d)**

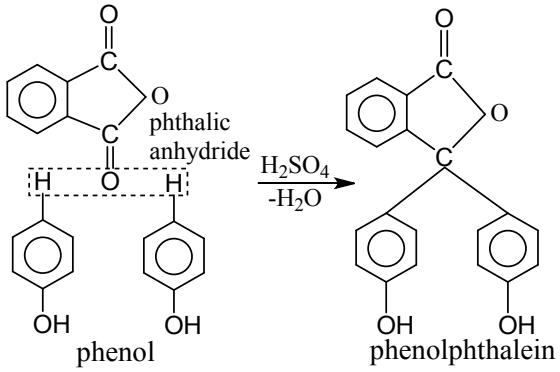
Glycerol is $CH_2OHCHOHCH_2OH$

18 **(a)**

Due to intermolecular hydrogen bonding, alcohols are less volatile than ether

19 **(d)**

In the presence of conc. H_2SO_4, two molecules of phenol condense with phthalic anhydride to form phenolphthalein



20 **(c)**

The mixture shows positive deviations from Raoult's law; *i.e.*, $\Delta H_{\text{mix}} > 0$, $\Delta V_{\text{mix}} > 0$.

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