DPP
DAILY PRACTICE PROBLEMS

Class : XIIth | **Solutions** | **Subject : CHEMISTRY**
Date : | **DPP No. : 9**

Topic :- Alcohols, Phenols & Ethers

1 **(b)**

$CH_3CH_2ONa + C_2H_5Br \xrightarrow[\text{synthesis}]{\text{Williamson's}} CH_3CH_2OCH_2CH_3 + NaBr$

Sodiumethoxide bromo ethane ethoxyethane

2 **(a)**

Reactivity order of alcohols towards $ZnCl_2$ and conc. HCl is *ter*: alcohol > *sec* alcohol > *pri* alcohol

Trimethyl carbinol is $CH_3-\underset{\displaystyle CH_3}{\overset{\displaystyle CH_3}{\overset{|}{\underset{|}{C}}}}-OH$

It is tertiary alcohol.

3 **(b)**

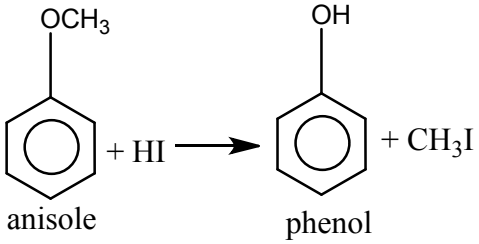
Peroxides are decomposed on heating with H_2SO_4

4 **(a)**

Glycerol is not reduced because of extensive H-bonding.

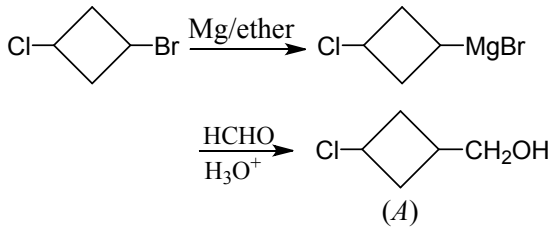
5 **(a)**

When an alkyl aryl ether is heated with HI, halogen goes with alkyl group. Therefore, heating anisole (methyl phenyl ether) with HI phenol and methyl iodide are obtained.



6 **(b)**

C — Br bond is weaker as compared to C — Cl bond



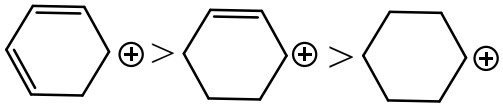
(*A*)

9 **(b)**

Higher concentration of substrate less easily undergoes fermentation; (a), (c), (d) favours fermentation.

10 **(b)**

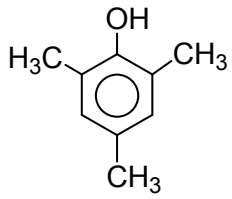
The correct order of stability of carbocation is as follows



11 **(a)**

Alcohols with same molecular weight are expected to have almost same boiling point however two more factors other than molecular weight are important, they are namely H-boiling and surface area of molecule. Both these factors are least in 3° alcohols and maximum in 1° alcohols. Hence, 3° alcohols have least boiling point while 1°alcohols have maximum boliling point.

12 **(d)**



will not with ϕNNCl to give dye

13 **(a)**

Phenol cannot be distinguished from ethanol by sodium because both evolve hydrogen with sodium.

$2C_6H_5OH + 2Na \rightarrow 2C_6H_5ONa + H_2\uparrow$

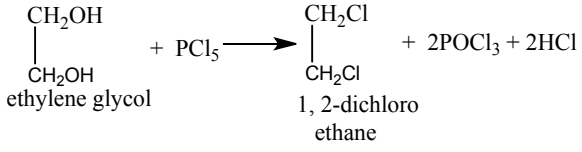
$2C_2H_5OH + 2Na \rightarrow 2C_2H_5ONa + H_2\uparrow$

14 **(b)**

Ethers do not contain acidic H-atom.

15 **(b)**

Ethylene glycol reacts with excess of PCl_5 to give ethylene chloride.

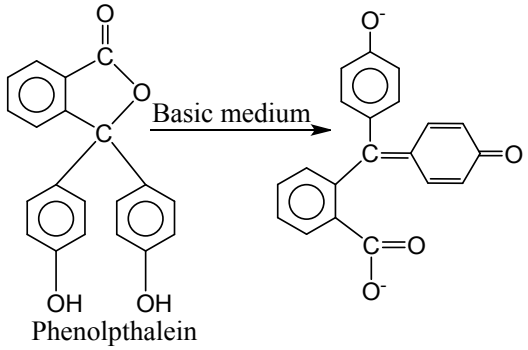


16 **(c)**

Due to low f.p. and mobile nature.

17 **(b)**

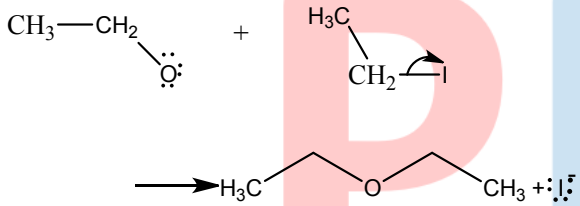
Structure of phenolphthalein in basic medium is as follows.



Phenolpthalein

18 **(b)**

$C_2H_5O^-$ will attract the proton from phenol converting the later into phenoxide ion. This would then make nucleophilic attack on the methylene carbon of alkyl iodide, but $C_2H_5O^-$ is in excess $C_2H_5O^-$ is better nucleophile than $C_6H_5O^-$(phenoxide) ion since while in the former the negative charge is localised over oxygen and in the later it is delocalised over the whole molecular frame work. So, it is $C_2H_5O^-$ ion that would make nucleophilic attack at ethyl iodide to give diethyl ether (Williamson's synthesis).



20 **(d)**

— OH gp. directly attached to benzene nucleus represents for phenolic gp.

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