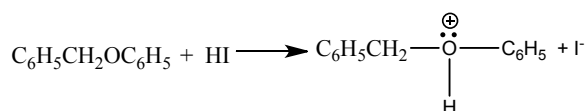


Topic :- Alcohols, Phenols & Ethers

1 (a)

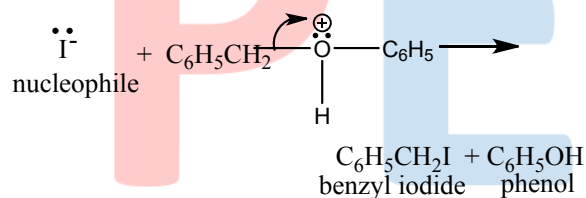
Benzyl phenyl ether is an unsymmetrical ether so halide ion of HI attached to the simple alkyl group and reaction takes place by following mechanism.

1. Protonation of ether

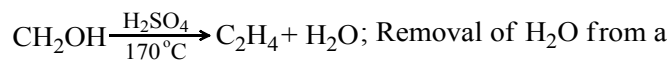


Benzyl phenyl ether

2. Nucleophilic attack



2 (b)



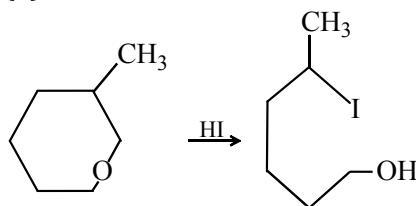
Removal of H_2O from a substrate molecule is called dehydration.

It is classified as elimination reaction.

4 (c)

The acid H_2SO_4 is added to adjust pH in between 4 to 4.5 which is favourable for the growth of yeast and unfavourable for the growth of undesired bacteria.

5 (a)



This is acid catalysed cleavage of cyclic ether where nucleophile attacks the more substituted carbon.

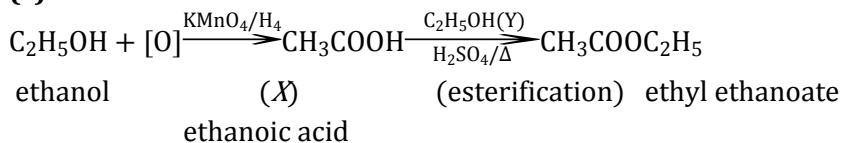
6 **(c)**

$R-S-R$ or $R-SR'$ are thioethers.

7 **(d)**

All are dehydrating agents.

8 **(c)**



Hence, $X = \text{CH}_3\text{COOH}$

$Y = \text{C}_2\text{H}_5\text{OH}$

9 **(c)**

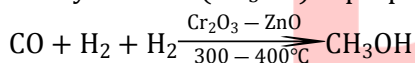
In case of 3° alcohols (tertiary alcohols) turbidity appears immediately at room temperature.

10 **(b)**

$\text{C}_2\text{H}_5\text{OH}$ (Ethanol) is a very weak acid, hence it does not react with NaOH. However, it reacts with metallic sodium.

11 **(a)**

Methyl alcohol (CH_3OH) is prepared by passing H_2 in water gas in presence of catalyst.



Water gas

methyl alcohol

12 **(a)**

The $-\text{OH}$ group of alcohol or the $-\text{COOH}$ group of a carboxylic acid is replaced by $-\text{Cl}$ using phosphorus pentachloride (*i.e.*, PCl_5)



alcohol

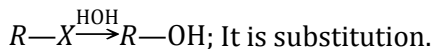


acid

13 **(c)**

Methanol cannot be dried with anhydrous CaCl_2 because it forms a solid $\text{CaCl}_2 \cdot 4\text{CH}_3\text{OH}$ (addition compound).

15 **(a)**



16 **(d)**

Lucas test is used to distinguish primary, secondary and tertiary alcohols.

18 **(c)**

Mol. wt. of thioethers are more than ether.

20 **(c)**

Methanol possesses maximum toxicity order; Ethanol has minimum.

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

PE