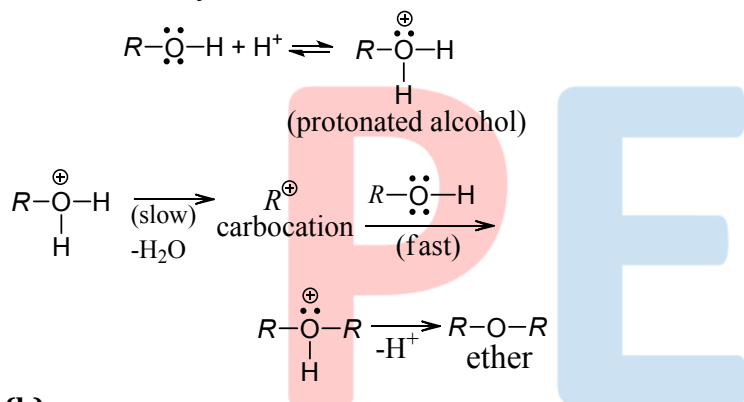


Topic :- Alcohols, Phenols & Ethers

- 1 (c)
Presence of two isopropyl groups on oxygen atom of ether shows more powerful inductive effect.

- 3 (d)
Alcohol is initially protonated by the acid to form protonated alcohol or oxonium ion. It is then attacked by a second molecule of alcohol which acts as nucleophile

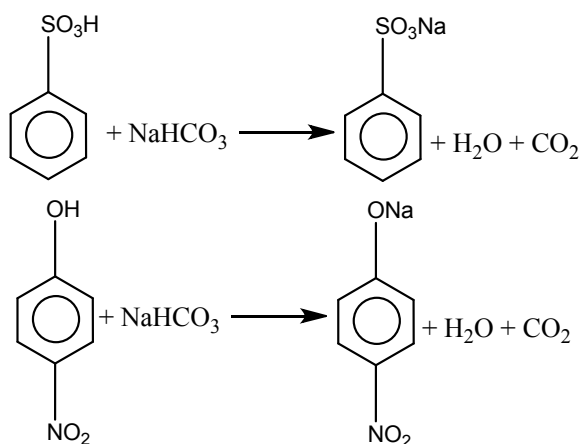


- 4 (b)
 $2C_2H_5I + Ag_2O \rightarrow C_2H_5OC_2H_5$
Ether

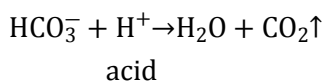
- 5 (a)
Electron withdrawing groups (like $-NO_2$) increase the acidity of phenols by stabilising corresponding phenoxide ion. The effect of $-NO_2$ group will be minimum at *m*-position due to lack of increased delocalisation of electrons in it. Hence, *m*-nitrophenol is the weakest acid among these.

- 6 (a)
Fusel oil is a mixture of pentanol and butanol with other organic substances.

- 7 (d)
Benzene sulphonic acid and *p*-nitro phenol react with $NaHCO_3$ and evolve CO_2 gas.



Because benzene sulphonic acid *p*-nitrophenol are stronger acids, so they are capable to evolve CO_2 with NaHCO_3 .



8

(d)

Secondary alcohols give blue colour in Victor Meyer test

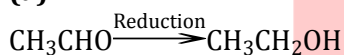
9

(a)

Conc. HCl + anhydrous ZnCl_2 is called as Lucas reagent. It is used to distinguish primary, secondary and tertiary alcohol.

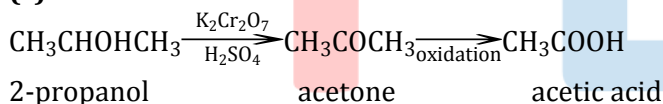
10

(a)



11

(c)



13

(d)

Phenol reacts with PCl_5 to form chlorobenzene. Halogenation of phenol does not take place with HX

14

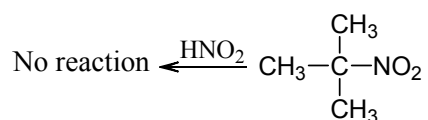
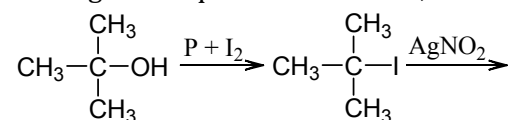
(d)

Alcohol has polar H which makes intermolecular H-bonding possible. Ether is non-polar hence no H-bonding. Lack of H-bonding in ether makes it more volatile than alcohol.

16

(c)

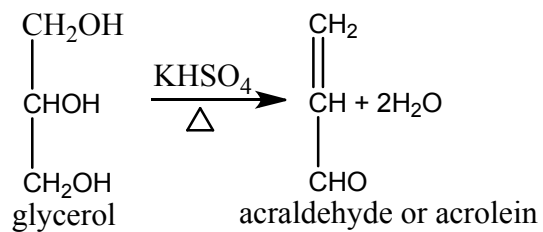
In the given sequence of reaction, the alcohol is tertiary.



17 **(c)**
It is better to call nitroglycerine as glycerol trinitrate an inorganic ester of HNO_3 and glycerol.

18 **(d)**
Br is replaced by OH gp.

20 **(c)**
Glycerol is dehydrated on heating with KHSO_4 .



P E

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

PE