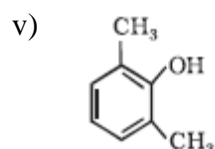
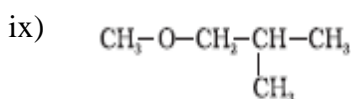
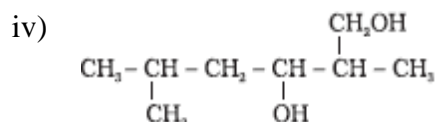
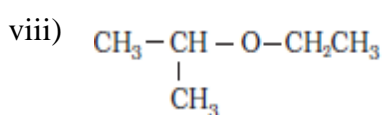
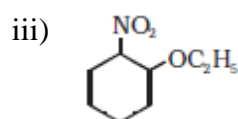
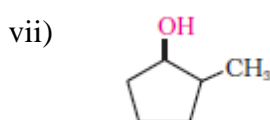
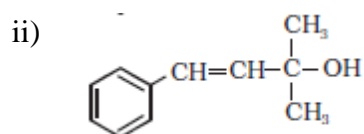
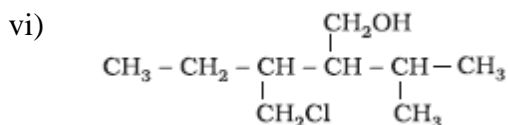
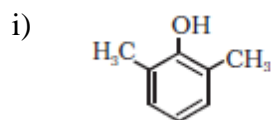


**CLASS XII**  
**CHAPTER – ALCOHOLS, PHENOLS AND ETHERS**

---

**ONE MARK QUESTIONS**

1. Name the following compounds according to the IUPAC system: (1 x 10)



2. Account for the following: (1 x 10)

- i) C – O – H bond angle in alcohol is less than tetrahedral angle.
  - ii) C – O bond length in phenol is shorter than that in methanol.
  - iii) C – O – C bond angle in ether is greater than the tetrahedral angle.
  - iv) The boiling points of alcohols and phenols are higher than corresponding alkanes of same molecular mass.
  - v) Among the isomeric alcohols the boiling point follows the order  $3^\circ < 2^\circ < 1^\circ$ .
  - vi) Lower alcohols are soluble in water
  - vii) Ethanol is less acidic than methanol.
  - viii) The acidic character of the alcohols follows the order  $1^\circ > 2^\circ > 3^\circ$
-

- ix) The reaction of alcohol with acid is carried out in presence of small amount of concentrated  $\text{H}_2\text{SO}_4$ .
- x) Reaction of alcohol with acid chloride is carried out in presence of a base pyridine.
3. Effect the following conversions: ( 1 x 10 )
- |                                      |                            |
|--------------------------------------|----------------------------|
| i) Chloro benzene to phenol          | vi) Propene to 1-Propanol  |
| ii) Benzene sulphonic acid to phenol | vii) Propene to 2-propanol |
| iii) Ethanol to isopropyl alcohol    | viii) Phenol to anisole    |
| iv) Phenol to picric acid            | ix) Phenol to aspirin      |
| v) Phenol to p-hydroxy acetophenone  | x) Aniline to phenol       |
4. Arrange the following on the increasing property given in bracket: (1 x 5)
- Pentan-1-ol, butan-1-ol, butan-2-ol, ethanol, propan-1-ol, methanol (Boiling Point)
  - Pentan-1-ol, n-butane, pentanal, Ethoxyethane (Boiling point)
  - Propan-1-ol, 2, 4, 6 – trinitro phenol, 3,5 – dinitro phenol, 4-methylphenol (Acidity)
  - Ter. Butyl alcohol, isobutyl alcohol, n-butyl alcohol (Acidity)
  - 4-nitro phenol, phenol, 2,4,6-trinitro phenol (Acid strength )
5. Write short note on the following: (1 x 5)
- |                                |                           |
|--------------------------------|---------------------------|
| i) Hydroboration               | iv) Kolbe's reaction      |
| ii) Reimer – Tiemann Reaction. | v) Williamson's synthesis |
| iii) Friedel-Craft's reaction  |                           |

### **THREE MARK QUESTION**

1. Write the mechanism of the following:  
Acid catalyzed dehydration of ethanol to diethyl ether.

### **VALUE BASEDQUESTION**

1. Leanne, a student of class XII is working in her chemistry laboratory. She is checking the action of acid chlorides and acid anhydrides on phenols. She found that as a result of one reaction aspirin is formed as product. She kept aspirin for medical use.
- Write the reaction for the formation of aspirin.
  - What do you mean by acetylation reaction?
  - Why is pyridine added in the reaction of alcohols with acid chloride
  - Why Leanne is storing aspirin for medical use? Is her this act correct? Give reason.

\*\*\*\*\*