



CHEMISTRY

BOOKS - OSWAAL PUBLICATION CHEMISTRY (KANNADA ENGLISH)

ALCOHOLS, PHENOLS AND ETHERS

Topic 1 Alcohols Phenols And Ethers Very Short Answer Type Questions

1. Which of the following isomers is more volatile: o-nitrophenol or p-nitrophenol?



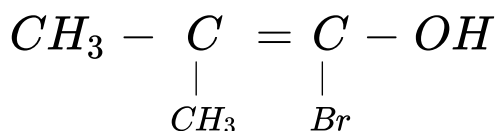
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2. Of the two hydroxy organic compounds ROH and R'OH. The first one is basic and other is acidic in behaviour. How is R different from R'?



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3. Write IUPAC name of the following:



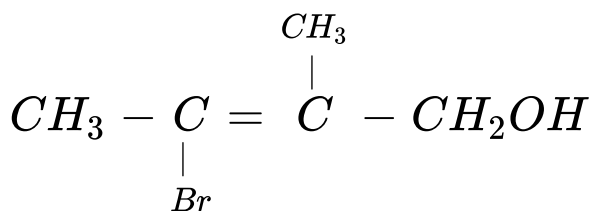
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4. The C-O bond is much shorter in phenol than in ethanol. Given reason.



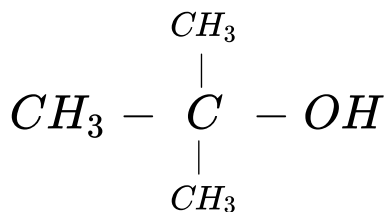
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5. Write the IUPAC name of the following:



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6. Write the IUPAC name of the following



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7. Draw the structural formula of 2-methylpropan-2-ol molecule.



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8. Draw the structure of hex-1-en-3-ol compound.



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9. Write the structure of 2,6-dimethyl phenol.



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10. Write the structure of the molecule of a compound whose IUPAC name is 1-phenylpropan-2-ol.



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Topic 1 Alcohols Phenols And Ethers Short Answer Type Questions

1. Explain the following behaviours:

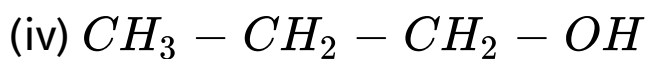
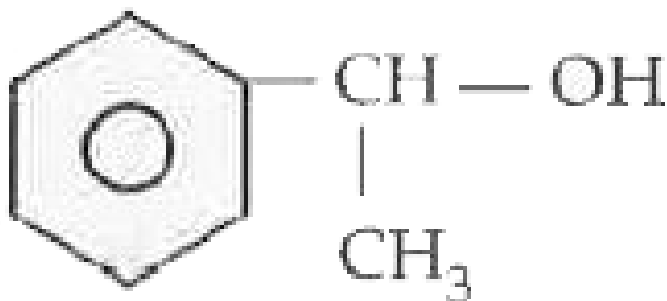
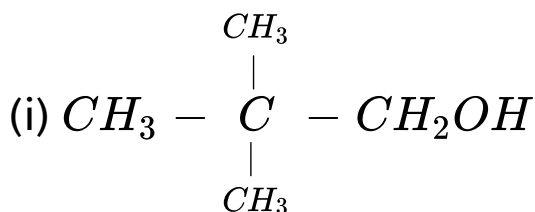
(i) Alcohols are more soluble in water than the hydrocarbons of comparable molecular masses.

(ii) o-nitrophenol is more acidic than o-nitrophenol is more acidic than o-methoxyphenol.



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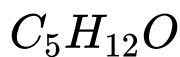
2. Classify the following as primary alcohols, secondary alcohols and tertiary alcohols.



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Topic 1 Alcohols Phenols And Ethers Long Answer Type Questions I

1. Write the structure and IUPAC name of all the isomeric alcohols with molecular formula



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2. What is the reactivity order of primary secondary and tertiary alcohols involving the cleavage of O-H bond?



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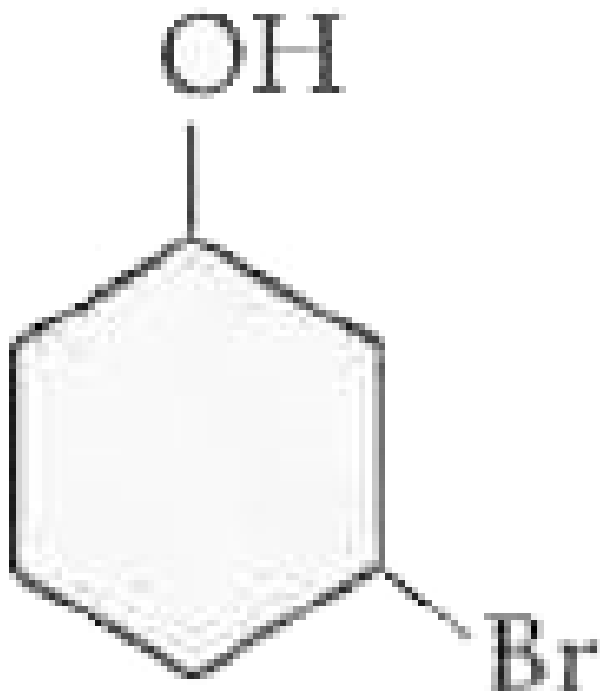
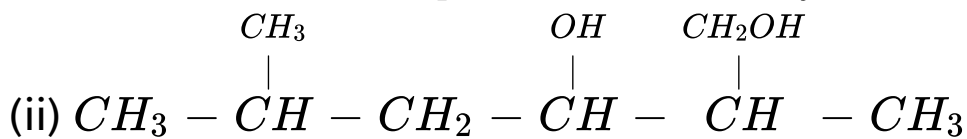
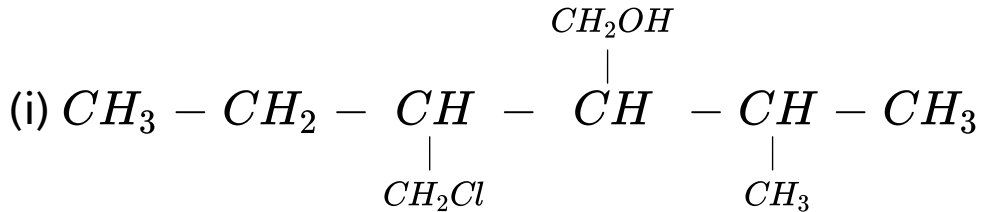
3. How will you account for the high, solubility of alcohol in water?

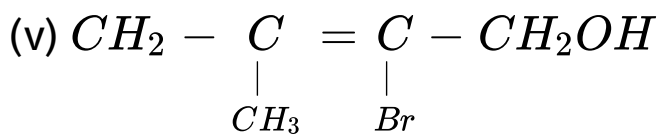
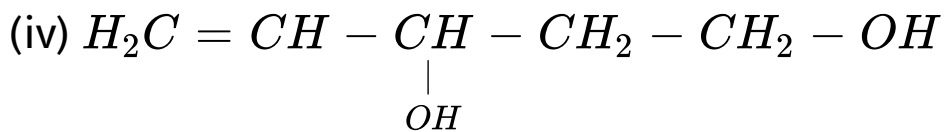


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Topic 1 Alcohols Phenols And Ethers Long Answer Type Questions Ii

1. Name the following compounds according to IUPAC system.





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Topic 2 Methods Of Preparation Of Alkanols Very Short Answer Type Questions

1. How would you obtain ethan-1,2-diol from ethanol?



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2. How would you obtain phenol from benzene?



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3. Write the chemical reaction to explain Kolbe's reaction.



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4. How would you convert ethanol to ethene?



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5. Explain Rcimer - Tiemann reaction with an example .



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Topic 2 Methods Of Preparation Of Alkanols Short Answer Type Questions

1. Name the product formed when phenol is treated with acidified solution of $Na_2Cr_2O_7$
Give equation.

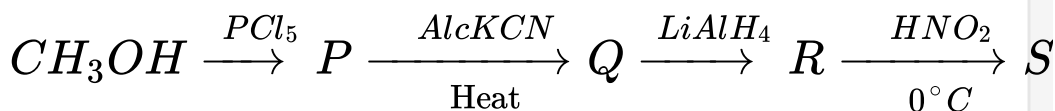


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2. Write the mechanism of acid catalysed dehydration of ethanol to ethene.

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3. Identify P,Q,R and S in the following conversions:



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4. How is phenol isolated from coal tar?



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5. How is phenol converted into salicylaldehyde?



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6. How does phenol react with bromine water?



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7. (a) How is phenol manufactured by cumene process. Give the chemical reactions of the reaction involved.

(b) How do you prepare ethanol by using the Grignard Reagent?



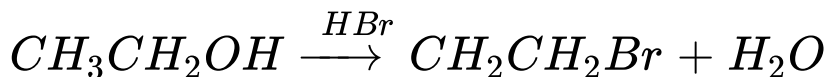
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8. Given one method for the preparation of ketone from alcohol.



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9. Write the mechanism of the following reaction:



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10. Explain the mechanism of acid catalysed hydration of an alkene to form corresponding alcohol.



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11. Write the mechanism of acid catalysed dehydration of ethanol to ethene.



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12. Describe the following reactions with one example of each:

(i) Friedel- Crafts reaction

(ii) Electrophilic substitution.



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13. How would you obtain

(i) Picric acid (2,4,6-trinitrophenol) from phenol,

(ii) 2-Methyl propene from 2-methyl propanol



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14. How are the following conversions carried out?

(i) Benzyl chloride to benzyl alcohol

(ii) Methyl magnesium bromide to 2-Methylpropan-2-ol



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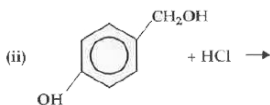
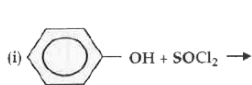
15. How are the following conversion carried out:

(i) Propene to propan-2-ol

(ii) Ethyl magnesium chloride to propan-1-ol

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16. Complete the following reaction equations:



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17. a. Give mechanism of preparation of ethoxy ethane from ethanol.

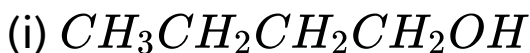
b. How is toluene obtained from phenol?



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18. Draw the structure and name the product formed if the following alcohols are oxidized.

Assume that an excess of oxidizing agent is used.



(i) 2-butenol

(iii) 2-methyl-1-propanol



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Topic 2 Methods Of Preparation Of Alkanols Long Answer Type Questions I

1. What is lucas reagent? How does it help in distinguishing primary, secondary and tertiary alcohols?



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2. How is dehydrogenation reaction of alcohol carried? Give example.



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Topic 2 Methods Of Preparation Of Alkanols Long Answer Type Questions Ii

1. Explain the preparation of phenol from cumene.



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Topic 3 Phenols Very Short Answer Type Questions

1. o-nitro phenol has lower boiling point than p-nitro phenol. Why?



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2. Give chemical test to distinguish between methanol and phenol.



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Topic 3 Phenols Short Answer Type Questions

1. Describe electrophilic substitution reaction of phenol.



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2. How would you obtain picric acid from phenol?

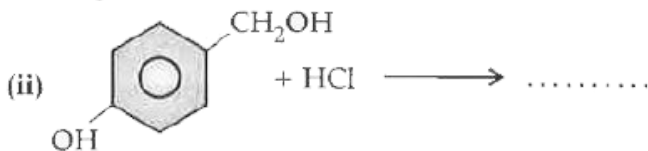
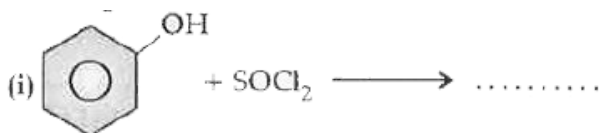


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3. How is toluene is obtained from phenol?

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4. Complete the following reaction equations:



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1. Discuss the effect of E.W.G on the acidic strength of phenols.



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2. Discuss in brief sulphonation and nitration of phenol.



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Topic 4 Classification And Nomenclature Of Ethers
Very Short Answer Type Questions

1. Write the equation involved in the reaction Williamson's ether synthesis.



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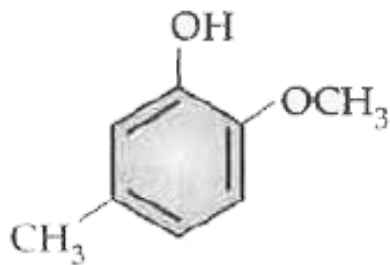
2. Write the structure of the following compound:

2-methyl1-2-ethoxypentane



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3. Write IUPAC name of the following:



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4. An alkoxide is a stronger base than hydroxide ion. Justify.

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Topic 4 Classification And Nomenclature Of Ethers

Short Answer Type Questions

1. Account for the following:

(i) The boiling point of ethanol is higher than that of methanol.

(ii) Phenol is a stronger acid than an alcohol.

(iii) The boiling points of ethers are lower than isomeric alcohols.



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2. How would convert the following:

(i) Phenol to benzoquinone

(ii) Propanone to 2-methyl propan -2-ol

(iii) Propene to propan -2-ol



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3. Give the mechanism of preparation of ethoxy ethane from ethanol.



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4. Account for the following:

(i) The boiling points of alcohols decrease with increase in branching of the alkyl chain.

(ii) Phenol does not give protonation reaction readily.

(iii) Phenyl methyl ether reacts with HI to give phenol and methyl iodide and not iodobenzene and methyl alcohol.



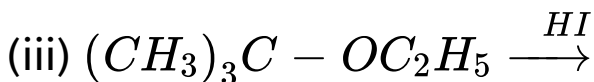
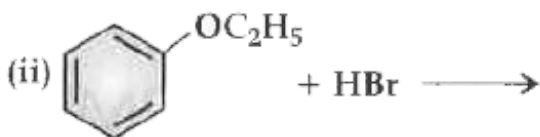
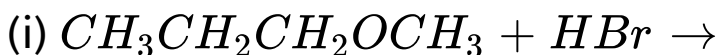
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5. Williamson's ether synthesis with an example.



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6. State the products of the following reactions:



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Topic 4 Classification And Nomenclature Of Ethers
Long Answer Type Question I

1. Write all the acyclic structural isomers of $C_4H_{10}O$. Give their IUPAC name also.

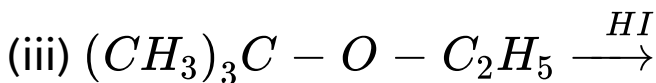
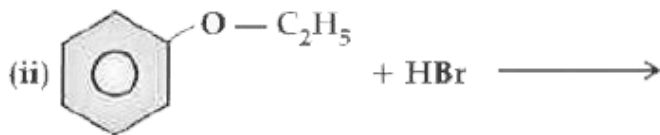


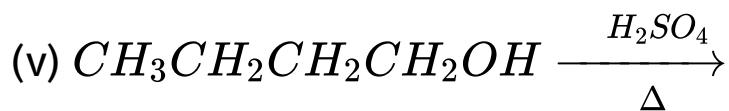
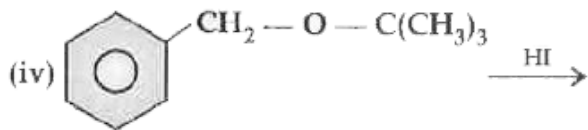
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Topic 4 Classification And Nomenclature Of Ethers

Long Answer Type Question Ii

1. Complete the following reaction





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