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**Max Time : 1 ½ hr** **Class = 12th Chemistry Test Max Marks : 40**

**Haloalkanes and Haloarenes ; Alcohols , Phenols and Ethers**

1. Multiple Choice Questions: [ 1 x 9 = 9 ]
2. Arrange the following compounds in increasing order of their boiling points.

(i) CH3-CH=CH-CH2Br (ii) CH3CH2CH2CH2Br (iii) CH3C≡CCH3

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| --- | --- | --- | --- |
| a) (iii) < (ii) < (i) | b) (i) < (ii) < (iii) | c) (iii) < (i) < (ii) | d) (i) < (iii) < (ii) |

1. Chlorobenzene is formed by the reaction of chlorine with benzene in the presence of AlCl3. Which of the following species attacks the benzene ring in this reaction?

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| --- | --- | --- | --- |
| a) Cl – | b) Cl + | c) AlCl3 | d) [Al Cl4] – |

1. Racemisation occurs in

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| --- | --- |
| a) SN 1 reaction | b) SN 2 reaction |
| c) Neither SN 2 reaction and SN 1 reaction | d) SN 2 reaction as well as SN 1 reaction |

1. Phenol is less acidic than \_\_\_\_\_\_\_\_\_\_\_.

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| a) Ethanol | b) o-nitrophenol |
| c) o-methylphenol | d) o-methoxyphenol |

1. Which is the correct order of acid strength of the following?

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| a) C₆H₅OH > H₂O > ROH > HC≡CH | b) C₆H₅OH > ROH > H₂O > HC≡CH |
| c) C₆H₅OH > HC≡CH > H₂O > ROH | d) HC≡CH > H₂O > ROH > C₆H₅OH |

1. During dehydration of alcohols to alkenes by heating with concentrated H₂SO₄ the initiation step is:

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| a) protonation of alcohol molecule | b) formation of carbocation |
| c) elimination of water | d) formation of an ester |

1. Which of the following reactions are feasible?
2. CH₃CH₂Br + Na⁺O⁻C(CH₃)₃ CH₃CH₂-O-C(CH₃)₃
3. (CH₃)₃C-Cl + Na⁺O⁻CH₂CH₃ CH₃CH₂-O-C(CH₃)₃
4. Both (a) and (b).
5. Neither (a) and (b).
6. The compound that reacts fastest with Lucas reagent at room temperature is:

|  |  |
| --- | --- |
| a) butan-1-ol | b) butan-2-ol |
| c) 2-methylpropan-1-ol | d) 2-methylpropan-2-ol |

1. Which of the following compounds will react with sodium hydroxide solution in water?

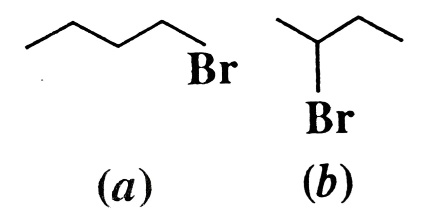
|  |  |  |  |
| --- | --- | --- | --- |
| a) C₆H₅OH | b) C₆H₅CH₂OH | c) (CH₃)₃COH | d) C₂H₅OH |

1. Explain why propanol has higher boiling point than that of the hydrocarbon, butane? [ 2 ]
2. Alcohols are comparatively more soluble in eater than hydrocarbons of comparable molecular masses. Explain this fact. [ 2 ]
3. What is meant by hydroboration-oxidation reaction? Illustrate it with an example. [ 2 ]
4. Give an equations of reactions for the preparation of phenol from cumene. [ 2 ]
5. Write chemical reaction for the preparation of phenol from chlorobenzene. [ 2 ]
6. You are given benzene, conc.H2SO4 and NaOH. Write the equations for the preparation of phenol by using these reagents. [ 2 ]
7. How the following conversions carried out? [ 2 ]

(a) Ethyl magnesium chloride Propanol

(b) Methyl magnesium bromide 2-Methylpropan-2-ol

1. Write equations for the reaction : Reaction of chlorobenzene with CH3Cl/anhyd.AlCl3. [ 2 ]
2. Explain Wurtz and Fitting reaction with example. [ 2 ]
3. (i) Which alkyl halide from the following pair is chiral and undergoes faster SN2 reaction? [ 2 ]



(ii) Out of SN1 and SN2 , which reaction occurs with:

(a) Inversion of Configuration (b) Racemisation

1. Explain Lucas reagent test. [ 3 ]
2. Explain Friedel Craft Alkylation and Acylation. [ 3 ]
3. What happens: [ 1 x 5 = 5 ]
4. Bromobenzene is treated with Mg in the presence of dry ether.
5. Chlorobenzene is subjected to hydrolysis.
6. Ethyl chloride is treated with aqueous KOH.
7. Methyl bromide is treated with sodium in the presence of dry ether.
8. Methyl chloride is treated with KCN?