

- Write the reaction in support of your answer.

Marks 4 with option 6

b) $\text{Br}_2 / \text{CCl}_4$

c) $\text{Br}_2 / \text{H}_2\text{O}$

d) KBr aq.

Very Short Answer Questions (1 Mark)

- Why do phenols give deep coloration with neutral ferric chloride?
- Write the name of valuable byproduct formed in preparation of phenol by using cumene.
- Write IUPAC name of crotonyl alcohol.
- Write the structure of the major product of hydroboration-oxidation of propene.
- Write the reaction for the preparation of aspirin from salicylic acid.
- Write the name of major product when anisole reacts HI at 398 K .
- What is the action of atmospheric oxygen on ethers?
- Draw intramolecular hydrogen bonding structure in o-nitrophenol.

Short Answer Questions (Type- I) (2 Marks)

- What is the action of following reagents on pent-3-enal, write a complete chemical equation.

a) H_2 / Ni

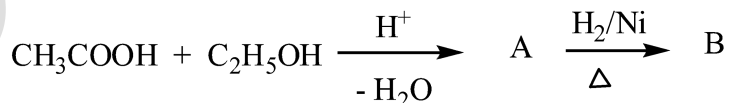
b) $\text{LiAlH}_4 / \text{H}_3\text{O}^+$

- Write the reactions involved in preparation of phenol from aniline.
- Write Kolbe's reaction.
- Write the name of reagents used to convert phenol into

a) picric acid

b) p-benzoquinone

- Write the structure of 'A' and 'B' in the following reaction sequence.



- Write chemical equations, when acetyl chloride reacts with following reagents
 - ethanol
 - phenol

Short Answer Questions (Type-II) (3 Marks)

- What is the action of following reagents on phenol at low temperature.

- a) dil. HNO_3 b) conc. H_2SO_4 c) Br_2/CS_2
- ii) Explain with reactions, the action of Lucas reagent on primary, secondary and tertiary alcohols.
- iii) How will you bring about the following conversions?
- isopropyl alcohol to acetone
 - 2-methyl propan-2-ol to 2-methylpropene
 - acetone to 2-methylpropan-2-ol
- iv) Compound 'A' with molecular formula $\text{C}_6\text{H}_5\text{Cl}$ is fused with NaOH at high temperature under pressure to give compound 'B'. Compound 'B' on treatment with dil. HCl gives compound C having characteristic carbolic odor. Write the chemical equations in support of this. Name the process and give uses of compound C.
- v) Write the preparation of ethanol from methyl magnesium iodide. Write the reaction between ethanol and acetic anhydride.
- vi) Write the reactions for preparation of carbolic acid from aniline. What is the action of conc. H_2SO_4 on carbolic acid at 373 K.

Long Answer Questions (4 Marks)

- i) Write chemical reactions to convert phenol into salicylaldehyde. Write the name of the reaction.
What happens if CCl_4 is used instead of CHCl_3 in the above reaction.
- ii) An organic compound gives hydrogen on reaction with sodium metal. It forms an aldehyde with molecular formula $\text{C}_2\text{H}_4\text{O}$ on oxidation with pyridinium chlorochromate. Give the chemical equations in support of these observations.
Explain the fact that in alkyl aryl ethers, alkoxy group is ring activating and ortho/para directing towards electrophilic aromatic substitution.
- iii) How will you prepare diethyl ether by dehydration of alcohols? What are the limitations to prepare ether by this method? What is the action of following on diethyl ether?
- dil. H_2SO_4
 - PCl_5