



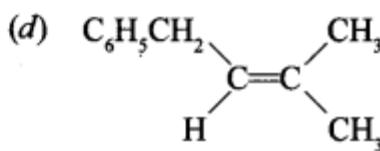
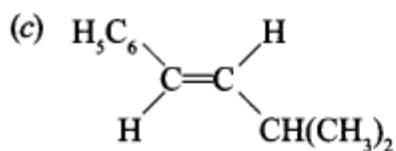
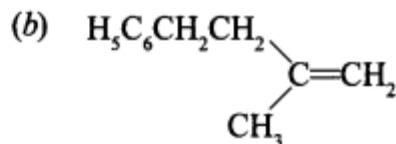
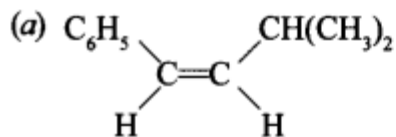
INDIAN SCHOOL MUSCAT
SENIOR SECTION
DEPARTMENT OF CHEMISTRY
CLASS XII
CHAPTER – ALCOHOLS, PHENOLS AND ETHERS
OBJECTIVE TYPE QUESTIONS



Multiple choice type questions

1. The heating of phenyl methyl ether with HI produces
- (a) Iodobenzene
 - (b) Phenol
 - (c) Benzene
 - (d) Ethyl chloride

2. $C_6H_5CH_2CH(OH)CH(CH_3)_2 \xrightarrow{\text{Conc. } H_2SO_4}$ is

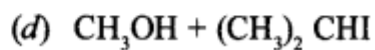
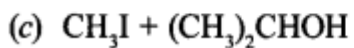
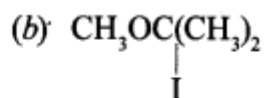
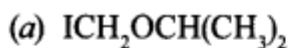


3. Phenol $\xrightarrow{\text{Zn, dust}}$ 'X' $\xrightarrow[\text{Anhy. } AlCl_3]{CH_3Cl}$ 'Y' $\xrightarrow[\text{KMnO}_4]{\text{Alkaline}}$ 'Z'

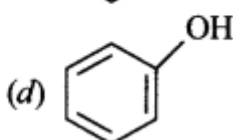
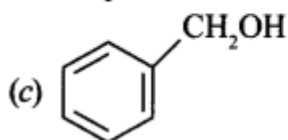
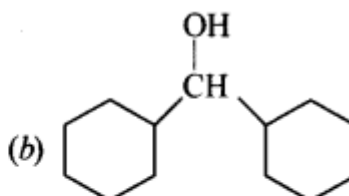
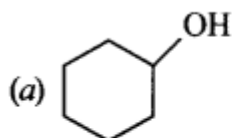
The product 'Z' is

- (a) Benzaldehyde
- (b) Benzoic acid
- (c) Benzene
- (d) Toluene

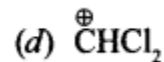
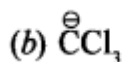
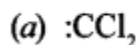
4. $\text{CH}_3\text{—O—CH}(\text{CH}_3)_2 + \text{HI} \rightarrow$ Products is/are



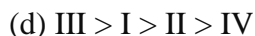
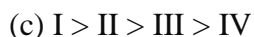
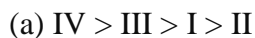
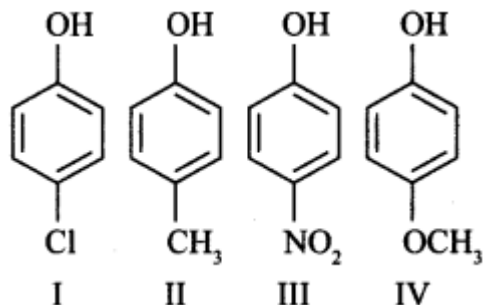
5. Which one of the following compounds has the most acid nature?



6. The electrophile involved in Riemer-Tiemann reaction of phenol with CHCl_3 in presence of NaOH



7. Arrange the following in decreasing order of acidic character:



8. $(\text{CH}_3)_3\text{CONa} + \text{CH}_3\text{CH}_2\text{Cl} \xrightarrow{-\text{NaCl}} (\text{CH}_3)_3\text{COC}_2\text{H}_5$ is called

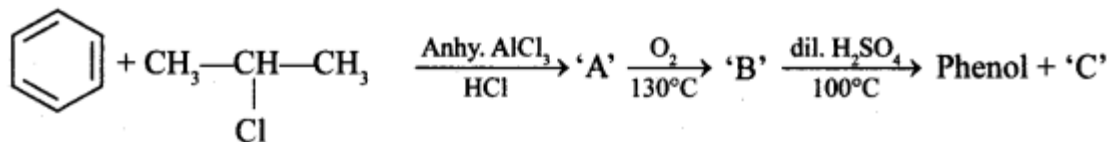
(a) Etard reaction

(b) Gattermann Koch reaction

(c) Williamson synthesis

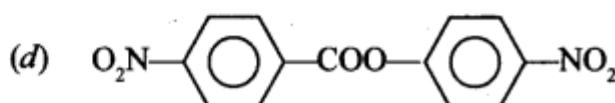
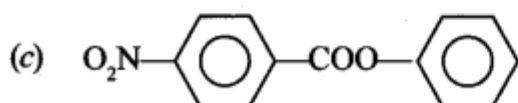
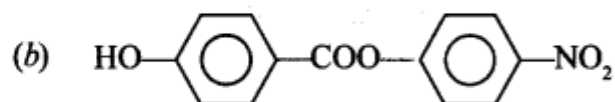
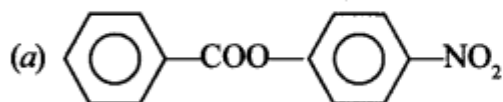
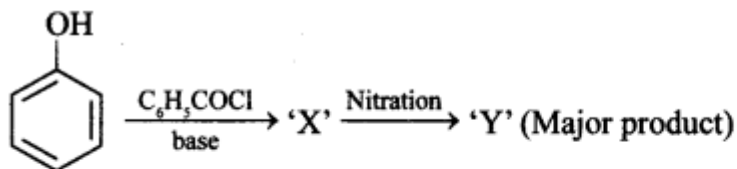
(d) Esterification

9. Identify 'C' in the following:

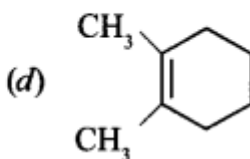
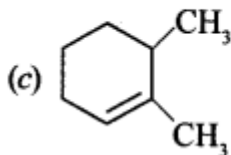
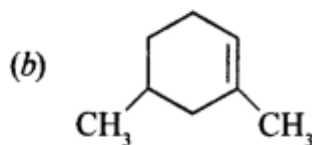
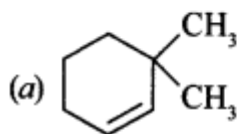
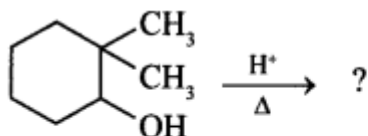


- (a) Water
- (b) Ethanol
- (c) Propanone
- (d) Cumene hydroperoxide

10.



11. Find the product of the given reaction:



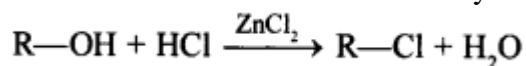
12. Monochlorination of toluene in sunlight followed by hydrolysis with aq. NaOH yields.

- (a) o-Cresol
- (b) m-Cresol
- (c) 2, 4-Dihydroxytoluene
- (d) Benzyl alcohol

13. How many alcohols with molecular formula $C_4H_{10}O$ are chiral in nature?

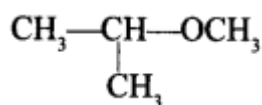
- (a) 1
- (b) 2
- (c) 3
- (d) 4

14. What is the correct order of reactivity of alcohols in the following reaction?



- (a) $1^\circ > 2^\circ > 3^\circ$
(b) $3^\circ > 2^\circ > 1^\circ$
(c) $2^\circ > 3^\circ > 1^\circ$
(d) $3^\circ > 1^\circ > 2^\circ$
15. $\text{CH}_3\text{CH}_2\text{OH}$ can be converted into CH_3CHO by _____. [NCERT Exemplar]

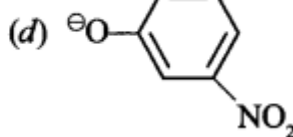
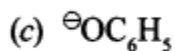
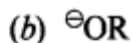
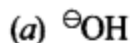
- (a) catalytic hydrogenation
(b) treatment with LiAlH_4
(c) treatment with pyridinium chlorochromate
(d) treatment with KMnO_4
16. IUPAC name of the compound



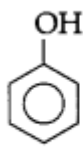
is _____.

- (a) 1-methoxy-1-methylethane
(b) 2-methoxy-2-methylethane
(c) 2-methoxypropane
(d) isopropylmethyl ether
17. The correct order of boiling point of primary (1°), secondary (2°) and tertiary (3°) alcohols is
- (a) $1^\circ > 2^\circ > 3^\circ$
(b) $3^\circ > 2^\circ > 1^\circ$
(c) $2^\circ > 1^\circ > 3^\circ$
(d) $2^\circ > 3^\circ > 1^\circ$

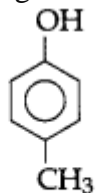
18. Which of the following species can act as the strongest base?



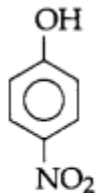
19. The correct acidic strength order of the following



I



II



III

is -

- (a) I > II > III
- (b) III > I > II
- (c) II > III > I
- (d) I > III > II

20. Which compound is predominantly formed when phenol is allowed to react with bromine in aqueous medium?

- (a) Picric acid
- (b) O-Bromophenol
- (c) 2, 4, 6-Tribromophenol
- (d) p-Bromophenol

21. Phenols are more acidic than alcohols because

- (a) Phenoxide ion is stabilised by resonance
- (b) Phenols are more soluble in polar solvents
- (c) Phenoxide ion does not exhibit resonance
- (d) Alcohols do not lose H atoms at all

22. The compound B is formed in the sequence of the reaction given below:



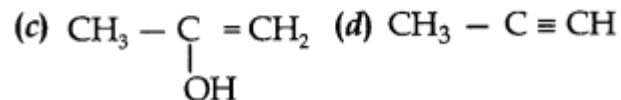
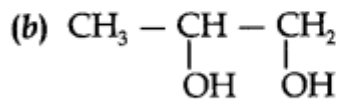
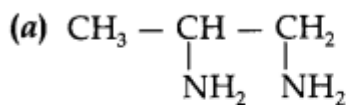
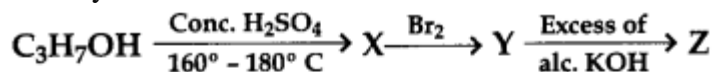
The compound B is

- (a) Salicylaldehyde
- (b) Benzoic acid
- (c) Salicylic acid
- (d) Cinnamic acid

23. Which of the following reagents cannot be used to distinguish between phenol and benzyl alcohol?

- (a) FeCl_3
- (b) Litmus soln
- (c) Br_2/CCl_4
- (d) All of these

24. Identify Z in the series



25. 1-propanol and 2-propanol can be best distinguished by

- (a) Oxidation with KMnO_4 followed by reaction with Fehling solution.
- (b) Oxidation with acidic dichromate followed by reaction with Fehling solution.
- (c) Oxidation by heating with copper followed by reaction with Fehling solution.
- (d) Oxidation with concentrated H_2SO_4 followed by reaction with Fehling solution.

26. The major organic product in the reaction, $\text{CH}_3 - \text{O} - \text{CH}(\text{CH}_3)_2 + \text{HI} \rightarrow$ product: is/are
- (a) $\text{CH}_3\text{I} + (\text{CH}_3)_2\text{CHOH}$
 (b) $\text{CH}_3\text{OH} + (\text{CH}_3)_2\text{CHI}$
 (c) $\text{ICH}_2\text{OCH}(\text{CH}_3)_2$
 (d) $\text{CH}_3 - \text{O} - \underset{\text{I}}{\text{C}} - (\text{CH}_3)_2$

In the following questions a statement of assertion followed by a statement of reason is given.

Choose the correct answer out of the following choices.

- (a) Assertion and reason both are correct and reason is correct explanation of assertion.
 (b) Assertion and reason both are wrong statements.
 (c) Assertion is correct but reason is wrong statement.
 (d) Assertion is wrong but reason is correct statement.
 (e) Assertion and reason both are correct statements but reason is not correct explanation of assertion.
27. Assertion: Bond angle in ethers is slightly less than the tetrahedral angle.
 Reason: There is a repulsion between the two bulky ($-\text{R}$) groups.
28. Assertion: p-Cresol is more acidic than phenol
 Reason: Acidic strength depends on the stability of the conjugate base
29. Assertion: Phenetole reacts with HI to form phenol and ethyl iodide
 Reason: Anisole readily undergoes electrophilic substitution
30. Assertion: Boiling points of ethers are much lower than the isomeric alcohols
 Reason: Alcohols have strong intermolecular forces called hydrogen bonding.

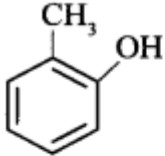
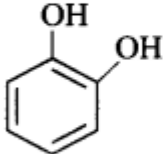
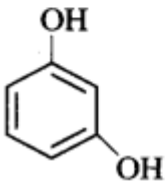
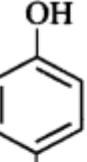
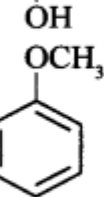
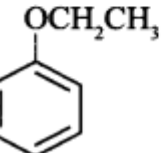
Fill in the blanks

31. Phenol reacts with Br_2 in CS_2 to give _____ as major product.
32. Phenol gives o and p-nitrophenol with _____
33. o-nitrophenol has _____ melting point than /j-nitrophenol.

State True or False

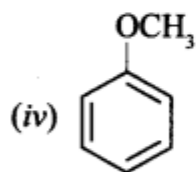
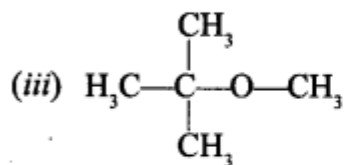
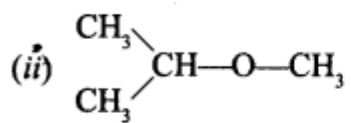
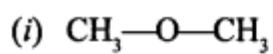
34. Diethyl ether has dipole moment because they are bent molecule.
35. Ethers have lower boiling point than alcohol

36. Alcohols are lower boiling than ethers
37. Williamson reaction cannot be used to prepare symmetrical ethers
38. Match the structures of the compounds given in Column I with the name of the compounds given in Column II.

Column I	Column II
<p>(i) </p>	<p>(a) Hydroquinone</p>
<p>(ii) </p>	<p>(b) Phenetole</p>
<p>(iii) </p>	<p>(c) Catechol</p>
<p>(iv) </p>	<p>(d) <i>o</i>-Cresol</p>
<p>(v) </p>	<p>(e) Quinone</p>
<p>(vi) </p>	<p>(f) Resorcinol (g) Anisole</p>

39. Match the starting materials given in Column I with the products formed by these (Column II) in the reaction with HI.

Column I



Column II

