

Class: 12  
Subject: chemistry  
Topic: Alcohols phenols and ethers  
No. of Questions: 25

Directions: The following question has four choices out of which ONLY ONE is correct.

1. Phenol is less acidic than

- a. ethanol
- b. methanol
- c. o-nitrophenol
- d. p-cresol

2. Which of the following is an isomer of propanal?

- a. Acetone
- b. Propane
- c. Propanol
- d. Propionic acid

3. Directions: The following question has four choices out of which ONLY ONE is correct.

$\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$  and  $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$  are

- a. position isomers
- b. chain isomers
- c. geometrical isomers
- d. functional isomers

4. Directions: The following question has four choices out of which ONLY ONE is correct.

The catalyst used in the manufacture of methanol from water gas is

- a.  $\text{V}_2\text{O}_5$
- b. Ni + Mo
- c.  $\text{CuO} / \text{ZnO} / \text{Cr}_2\text{O}_3$
- d. Pt + W

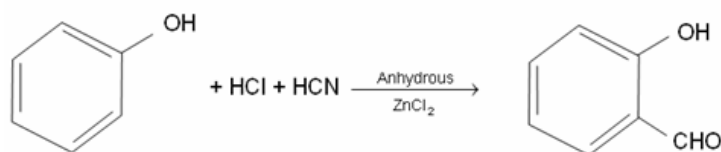
5. Directions: The following question has four choices out of which ONLY ONE is correct.

Phenol when distilled with Zn-dust, gives

- a. benzoic acid
- b. benzene
- c. benzaldehyde
- d. toluene

6. Directions: The following question has four choices out of which ONLY ONE is correct.

The following reaction is known as



- a. Perkin's reaction
- b. Gattermann's reaction
- c. Kolbe's reaction
- d. Gattermann's aldehyde reaction

7. Directions: The following question has four choices out of which ONLY ONE is correct.

The conversion of RCOOH to RCH<sub>2</sub>OH can be obtained by

- a. LAH
- b. NaBH<sub>4</sub>
- c. Zn/HCl
- d. Sn/HCl

8. Directions: The following question has four choices out of which ONLY ONE is correct.

Glycerol is synthesized from

- a. ethane
- b. propyne
- c. propene
- d. ethane

9. Directions: The following question has four choices out of which ONLY ONE is correct.

Of the following chemical compounds, which one may soon be used as a fuel for driving vehicles?

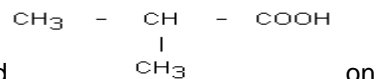
- a. Ethanol
- b. Methane
- c. Ethyne
- d. Ethane

10. Which will give positive iodoform test?

- a.  $\text{CH}_3\text{CH}_2-\overset{\text{O}}{\parallel}{\text{C}}-\text{OCH}_2\text{CH}_3$
- b.  $\text{CH}_3\text{CH}_2-\overset{\text{O}}{\parallel}{\text{C}}-\text{CH}_2\text{CH}_3$
- c.  $\text{CH}_3\text{CH}_2\text{CH}_2-\overset{\text{O}}{\parallel}{\text{C}}-\text{CH}_3$
- d. All of the above

11. Directions: The following question has four choices out of which ONLY ONE is correct.

Which of the following alcohols is most likely to yield carboxylic acid oxidation?



- a. 2 - methyl propan - 1 - ol
- b. 2 - methyl propan - 2 - ol
- c. Propan - 2 - ol
- d. Butan -1 - ol

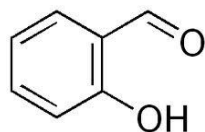
12. Directions: The following question has four choices out of which ONLY ONE is correct.

Which of the following functional compounds do not give Schotten-Baumann reaction?

- a. Alcohols
- b. Phenols
- c. Amines
- d. Ether

13. Directions: The following question has four choices out of which ONLY ONE is correct.

Identify the given structure:



- a. Salicylaldehyde
- b. Salicylic acid
- c. Benzaldehyde
- d. Picric acid

14. Directions: The following question has four choices out of which ONLY ONE is correct.

Which one of the following has the bond angle greater than the tetrahedral angle ( $109^\circ - 28'$ )?

- a. Methanol
- b. Phenol
- c. Methoxymethane
- d. None of these

15. Directions: The following question has four choices out of which ONLY ONE is correct.

Which one of the following has the lowest C-O bond length?

- a. Methanol
- b. Phenol
- c. Methoxymethane
- d. All of the above have same bond length

16. Directions: The following question has four choices out of which ONLY ONE is correct.

Which one of the following sets of compounds is correct in order of the increasing boiling points?

- a. Butane, ethoxyethane, pentanol
- b. Butane, pentanol, ethoxyethane
- c. Pentanol, butane, ethoxyethane
- d. Pentanol, ethoxyethane, butane

17. Directions: The following question has four choices out of which ONLY ONE is correct.

Which of the following is correct in order of their decreasing acid strengths?

- Methyl alcohol, iso-propyl alcohol, tertiary butyl alcohol
- Tertiary butyl alcohol, iso-propyl alcohol, methyl alcohol
- Tertiary butyl alcohol, methyl alcohol, iso-propyl alcohol
- Methyl alcohol, tertiary butyl alcohol, iso-propyl alcohol

18. Directions: The following question has four choices out of which ONLY ONE is correct.

When phenol is heated with zinc dust, the product formed is

- salicylaldehyde
- salicylic acid
- benzene
- benzoquinone

19. Phenols are more acidic than alcohols because

- phenoxide ion is stabilised by resonance
- phenols are more soluble in polar solvents
- phenoxide ions do not exhibit resonance
- alcohols do not lose H atoms at all

20. Directions: The following question has four choices out of which ONLY ONE is correct.

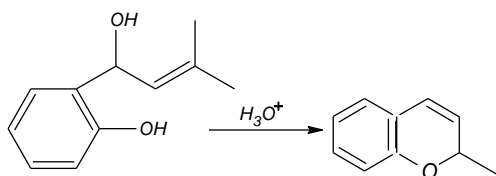
Order of reactivity of halogen acids towards an alcohol is

- HCl > HBr > HI
- HBr > HI > HCl
- HI > HBr > HCl
- HI > HCl > HBr

21. Why phenol has smaller dipole moment than methanol?

22. Why di tert – butyl ether can not be obtained by Williamson's method?

23. Write mechanism of the following reaction



24. Compound (A)  $C_6H_{14}O$  is insoluble in water and gives negative Lucas test. On treatment with conc.  $H_2SO_4$  followed by hydrolysis it gives only one compound (B) ( $C_3H_8O$ ). Compound (B) is soluble in water and gives red colour with ceric ammonium nitrate. (B) gives yellow precipitate (C) and compound (D) on treatment with  $I_2/Na_2CO_3$  followed by acidification. Identify the compound A, B, C and D. Give the reasons.
25. Explain the low boiling point and decreased water solubility by o – nitro phenol and o – hydroxy benzaldehyde as compared with their m and p – isomers.

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