

## CHEMISTRY

### BOOKS - MARVEL CHEMISTRY (HINGLISH)

#### ALCOHOL, PHENOLS AND ETHERS

##### MCQs

1. Ethanol  $C_2H_5OH$  is also named as

- A. ethyl alcohol
- B. spirit of wine
- C. grain alcohol
- D. all

**Answer: D**



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**2. Tonics in general contain**

A. Methanol

B. Ethanol

C. Ether

D. Rectified spirit

**Answer: B**



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**3. The functional isomer of alcohol is**

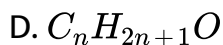
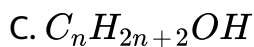
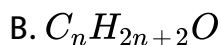
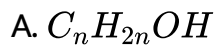
- A. ether
- B. aldehyde
- C. ketone
- D. carboxylic acid

**Answer: A**



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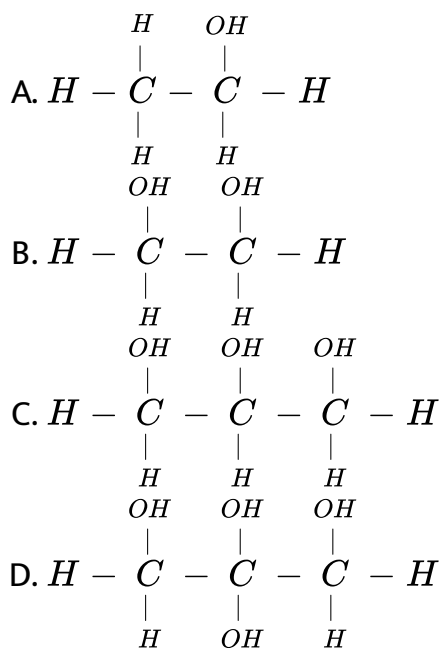
4. Primary/Secondary/Tertiary alcohols can be presented by the following general formula



Answer: B

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5. Choose the trihydric alcohol among the following alcohols :

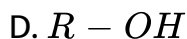
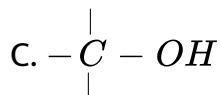
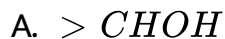


Answer: C

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6. General formula of tertiary alcohol is



Answer: C



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7. The number of possible primary alcohols with the molecular  $C_4H_{10}O$  is:

A. 1

B. 2

C. 3

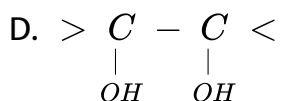
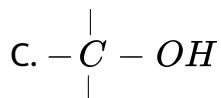
D. 4

**Answer: B**



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8. Which one is a primary alcoholic group ?



**Answer: A**



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9. Butanol-2 is a

- A. primary alcohol
- B. secondary alcohol
- C. tertiary alcohol
- D. dihydric alcohol

**Answer: B**



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10. An alcohol have molecular formula  $C_2H_6O$ , its functional isomer is

- A. diethyl ether
- B. Ethanol

C. dimethyl ether

D. dimethyl ketone

**Answer: C**



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11. Glycerine has \_\_\_\_\_

A. three primary hydroxyl groups

B. two secondary and one primary hydroxyl groups

C. three secondary hydroxyl groups

D. two primary and one secondary hydroxyl group

**Answer: D**



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12. Which of the following is dihydric alcohol ?

- A. allyl alcohol
- B. glycerine
- C. glycerol
- D. propylene glycol

**Answer: D**

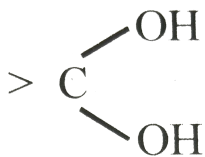


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13. Funtional group of primary alcohols is

- A.  $>CHOH$
- B.  $>C-OH$
- C.  $-CH_2Oh$

D.



**Answer: C**



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**14.** Give the number alcohol of isomer of  $C_4H_9OH$

A. 2

B. 3

C. 4

D. 5

**Answer: C**



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15. Alcohol exhibit

- A. chain isomerism
- B. position isomerism
- C. functional isomerism
- D. all of these

**Answer: D**



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16. How many isomers of  $C_5H_{11}OH$  will be primary alcohols?

- A. five
- B. three
- C. two

D. four

**Answer: D**



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17. Alcohols which have two hydroxyl (-OH) groups are called

-----

A. allylol

B. diols

C. glycols

D. either "b" or "c"

**Answer: B**



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18. Which of the following is the systematic name for allyl alcohol ?

- A. allylol
- B. prop-2-en-1-ol
- C. isopropyl alcohol
- D. Rectified spirit

**Answer: B**



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19. The correct IUPAC name of the compound

$CH_3CH(C_2H_5)CH_2CH(OH)CH_3$  is

- A. 2-Ethyl-4-pentanol
- B. 2-Hydroxy-4-methyl pentane

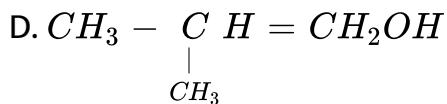
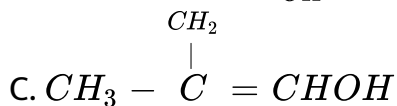
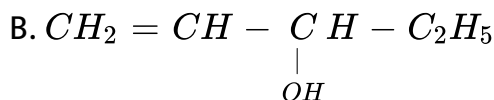
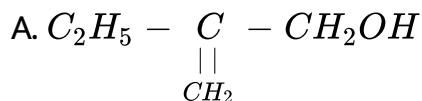
C. 4-Ethyl-2-pentanol

D. 4-Methyl-2-hexanol

**Answer: D**

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**20.** The structure formula of 2-ethyl prop-2-en-1-ol is



**Answer: A**

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21. 2-Methyl butan-2-ol is

- A. primary alcohol
- B. secondary alcohol
- C. tertiary alcohol
- D. carbinol

**Answer: C**



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22. IUPAC name of neopentyl alcohol is \_\_\_\_\_ .

- A. 2,2dimethyl-1-propanol
- B. 2-methyl-2-butanol

C. 1,1-dimethyl-1-propanol

D. 2-methyl-2-propanol

**Answer: A**



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23. IUPAC name of  $HO - CH_2 - CHOH - CH_2OH$  is \_\_\_\_\_

A. Glycerol

B. glycerine

C. Propan triol

D. Propane-1,2,3-triol

**Answer: D**



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24.  $HO - CH_2 - (CHOH)_4 - CH_2OH$  represents the structure of formula of the following compound :

- A. Cellulose
- B. Glucose
- C. Sucrose
- D. Sorbitol

**Answer: D**



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25. The only alcohol that can be prepared by the indirect hydration of alkene is

- A. ethyl alcohol

- B. methyl alcohol
- C. isopropyl alcohol
- D. iso-butyl alcohol

**Answer: D**



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**26.** Ethyl alcohol is manufactured by the following method :

- A. fermentation method
- B. reduction of carbonyl compounds
- C. hydration of alkene
- D. all the above methods

**Answer: D**





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27. Which of the following is obtained by hydrolysis of fats and oils?

- A. Ethanol
- B. Glycerol
- C. Ethylene glycol
- D. Acetaldehyde

**Answer: B**



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28. Acid and alcohol are obtained by the hydrolysis of

- A. ester

- B. ethyl bromide
- C. acetic anhydride
- D. alkyl cyanide

**Answer: A**



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**29. Acetone on reduction yields**

- A. n-propyl alcohol
- B. iso-propyl alcohol
- C. butyl alcohol
- D. methyl alcohol

**Answer: B**





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30.  $LiAlH_4$  converts acetic acid into-

- A. acetaldehyde
- B. methane
- C. ethyl alcohol
- D. methyl alcohol

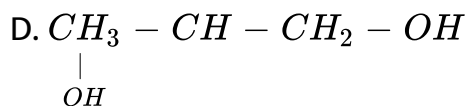
Answer: C



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31. Which compound on reaction with ethyl magnesium bromide and water will form 2-methylbutan-2-ol ?

- A.  $CH_3COCH_3$



**Answer: A**



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**32.** One mole of diethyl ether on heating with conc. HI gives

A. ethyl alcohol

B. Ethane

C. Ethyl iodide

D. Ethylene

**Answer: C**



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**33.** Alcohols are prepared on the industrial scale by hydration of

- A. olefins
- B. fermentation
- C. molasses
- D. aldehydes

**Answer: A**



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**34.** A tertiary alcohol is obtained when Grignard reagent react with

A. Pentanone

B. Butanone

C. Propanone

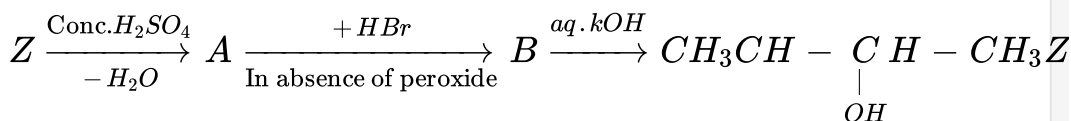
D. all of these

**Answer: D**

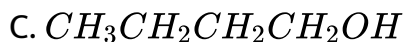


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**35.**



is :



D. both "a" and "c"

**Answer: D**



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**36.**  $C_2H_5OH$  is produced when

A.  $C_2H_5Br$  reacts with aqueous KOH

B.  $C_2H_5Br$  reacts with alcoholic KOH

C.  $C_2H_5Br$  reacts with  $C_2H_5ONa$

D.  $C_2H_2Br$  reacts with  $AgCN$

**Answer: A**



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37.  $CH_3CH_2OH$  is obtained by the hydrolysis of

- A.  $CH_3CH_2Cl$  with aqueous  $KOH$
- B.  $RCOOC_2H_5$  with dilute mineral acid
- C.  $C_2H_5 - O - C_2H_5$  with steam
- D. all the above methods

**Answer: D**



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38. A ketone, on reduction with  $Na-Hg$  in water gives

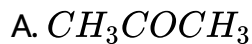
- A. primary alcohol
- B. tertiary alcohol
- C. secondary alcohol
- D. acid

**Answer: C**



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**39.** Which compound on reaction with ethyl magnesium bromide and water will form 2-methylbutan-2-ol ?

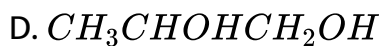
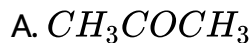


**Answer: A**



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40. Which compound on reaction with ethyl magnesium bromide and water will form 2-methylbutan-2-ol ?



Answer: A



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for the above reaction, the catalyst used is

A. nickel



B. plantinum

C. raney nickel

D. all of these

**Answer: D**



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**42.** In the catalytic reduction of ketone to secondary alcohol, the catalyst used is

A. Na-Hg water

B. Na-alcohol

C. Ni

D. Zinc

**Answer: C**



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**43.** the reaction:

$CH_3CH_2I + KOH(aq.) \rightarrow CH_3CH_2OH + KI$  is classified as:

- A. electrophilic substitution
- B. electrophilic addition
- C. nucleophilic substitution
- D. nucleophilic addition

**Answer: C**



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44. An industrial method of the preparation of methanol is :

- A. by reacting  $CH_4$  with steam of  $900^\circ C$  with a nickel catalyst
- B. by reduction of HCHO with  $LiAlH_4$
- C. by catalytic reduction of CO
- D. by reduction of HCHO with NaOH (aq)

Answer: C



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45. Propylene can be converted into 2-propanol by action of

- A. dil. HCl
- B. conc.  $H_2SO_4$  and hydrolysis
- C.  $H_2O$

D. conc.  $H_2SO_4$

**Answer: B**



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**46.** To prepare 2 propanol from  $CH_3MgI$  the other chemical required is

A.  $HCHO$

B.  $CH_3CHO$

C.  $C_2H_5OH$

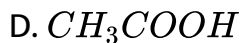
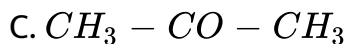
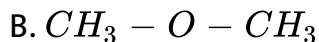
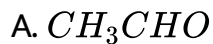
D.  $CO_2$

**Answer: B**



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47. Ethanol is obtained by the reduction of



**Answer: A**



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48. The following compound cannot be used for the preparation of an alcohol :

A. Aldehyde

B. Alkene

C. Alkylhalide

D. Alkyl amine

**Answer: D**



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**49.** Treatment of 1-butene with conc.  $H_2SO_4$  followed by treatment with water forms

A. 1-butanol

B. 2-butanol

C. 2-propanol

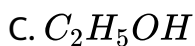
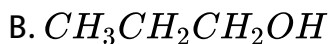
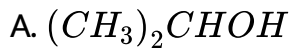
D. 1,2-propandiol

**Answer: B**



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50. Acetone is treated with sodium amalgam and water gives



**Answer: A**



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51. As the alkyl part goes on increasing in alcohol , the solubility of alcohol in water

A. goes on increasing

- B. decreases
- C. remain unchanged
- D. may increase or decrease

**Answer: B**



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**52. Liquor poisoning is due to:**

- A. presence of bad compound in liquor
- B. presence of methyl alcohol
- C. presence of ethyl alcohol
- D. presence of carbonic acid

**Answer: B**





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53. A monohydric alcohol is a poison and causes blindness and even death , that is

A. methyl alcohol –  $CH_3OH$

B. ethyl alcohol - $C_2H_5OH$

C. propyl alcohol - $C_3H_7OH$

D. butyl alcohol- $C_4H_9OH$

**Answer: A**

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54. When alcohol is dissolved in water , it is accompanied by

A. absorption of heat and contraction in volume

- B. evolution of heat and contraction in volume
- C. absorption of heat and increase in volume
- D. evolution of heat and increase in volume

**Answer: B**



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**55. Solubility of alcohol in water increases with**

- A. increase in molecular mass
- B. increase in size of alkyl group
- C. increase in number of hydroxyl groups
- D. decrease in molecular mass

**Answer: C**





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56. Boiling point of alcohol is more than corresponding ether.

Why ?

- A. Hydrogen bonding exist between alcohol molecules
- B. Alcohol being more soluble in water
- C. Ethers are non polar molecules
- D. Alcohols are polar

**Answer: A**



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57. Which of the following compounds has lowest boiling point ?

- A. n-butyl alcohol

B. sec-butyl alcohol

C. t-butyl alcohol

D. 2-pentanol

**Answer: C**



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**58.** Which of the following compound has highest boiling point ?

A.  $CH_3OCH_3$

B.  $CH_3CH_2Cl$

C.  $CH_3CH_2OH$

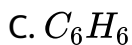
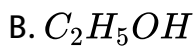
D.  $CH_3CHO$

**Answer: C**



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59. Which of the following organic liquid mixes freely with water ?



Answer: B



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60. Which of the following is most viscous liquid ?

A. ethyl alcohol

B. Glycerol

C. Ethylene glycol

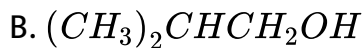
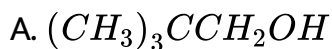
D. Water

**Answer: B**



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**61.** Which of the following isomers of butanol has chiral carbon atom ?

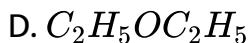
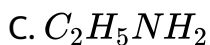
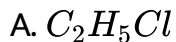


**Answer: C**



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62. Hydrogen bonding is maximum in



Answer: B



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63. The increasing order of the boiling point of alcohol is

A. primary > secondary > tertiary

B. tertiary < primary < secondary

C. tertiary > secondary < primary

D. primary = secondary = tertiary

**Answer: A**



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**64.** If we increase the molecular mass of alcohol , its solubility will

A. increase

B. decrease

C. no change

D. cannot predict

**Answer: B**



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65. Alcohol and water can be separated by

A. fractional distillation

B. evaporation

C. sublimation

D. separating funnel

**Answer: A**



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66. Boiling point of pure ethanol is

A.  $56^{\circ}\text{C}$

B.  $78^{\circ}\text{C}$

C.  $100^{\circ}\text{C}$

D.  $118^{\circ}$

**Answer: B**



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**67.** Absolute alcohol is denatured by the addition of poisonous substance like

A. methyl alcohol

B. acetone

C. pyridene

D.  $SOCl_2$

**Answer: A**



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**68.** Out of Pri., Sec. and Tert. Butyl alcohols, Tertiary Butyl alcohol has the highest solubility in water because

- A. its molecular structure is very compact
- B. its molecular have weaker inter molecular attractions
- C. its molecular are easily surrounded by water molecules
- D. hydrogen bonding is less

**Answer: A**



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**69.** Alcohols boil at a higher temperature compared to alkanes and other compounds of similar molecular weights because

- A. its molecular structure is very compact

B. the presence of many isomers

C. the decrease of volatility

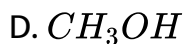
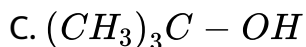
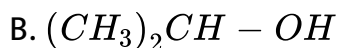
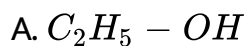
D. the presence of hydrogen bond, which cause association of the molecules , raises the molecular weight and reduces the volatility

**Answer: D**



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**70.** Which of the following is least soluble in water ?

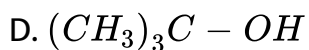
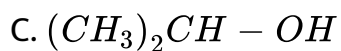
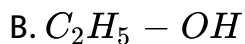
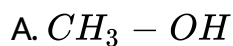


**Answer: C**



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**71.** Which of the following alcohol is more soluble in water ?



**Answer: A**



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72. The boiling point of alcohol is much more higher than alkane due to

- A. presence of intermolecular hydrogen bonding
- B. absence of intermolecular hydrogen bonding
- C. presence of intramolecular hydrogen bonding
- D. absence of intramolecular hydrogen bonding

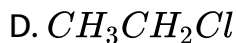
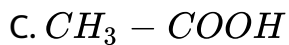
**Answer: A**



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73. The boiling point of ethanol should be less than that of

- A.  $CH_3 - O - CH_3$
- B.  $CH_3 - CHO$

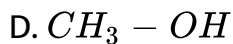


**Answer: C**



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**74. The compound having highest boiling point :**



**Answer: D**



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**75.** Alcohols of high molecular mass are

- A. soluble in water
- B. soluble in water on heating
- C. insoluble in all solvents
- D. insoluble in water

**Answer: D**



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**76.** In isomeric alcohols correct order of boiling point is

- A.  $2^\circ > 3^\circ > 1^\circ$
- B.  $3^\circ > 2^\circ > 1^\circ$
- C.  $1^\circ > 2^\circ > 3^\circ$



D.  $2^\circ > 1^\circ > 3^\circ$

**Answer: C**



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77. The boiling point of alcohol is much more higher than alkane due to

- A. presence of intermolecular hydrogen bonding
- B. absence of intermolecular hydrogen bonding
- C. presence of intramolecular hydrogen bonding
- D. absence of intramolecular hydrogen bonding

**Answer: A**



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**78.** An aqueous solution of ethyl alcohol is

- A. neutral in nature
- B. acidic in nature
- C. amphoteric
- D. basic in nature

**Answer: A**



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**79.** Association of alcohol molecules takes place because of

- A. electrovalent bond
- B. ionic bond
- C. covalent bond

D. hydrogen bond

**Answer: D**



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**80.** Which one of the following is not the characteristic of alcohols?

- A. Their boiling points rise fairly uniformly with a rise in molecular weight .
- B. Lower members have a pleasant smell but burning taste and the higher ones are odourless and tasteless.
- C. These are lighter than water .
- D. Lower molecules are insoluble in water and organic solvents but the solubility goes on increasing with the increase of

molecular weight .

**Answer: D**



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**81.** The waxy substance are

- A. Lower members of alcohols
- B. Higher members of alcohols
- C. Lower members of aldehydes
- D. Higher members of aldehydes

**Answer: B**



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82. The alcohol , which is optically active is

A. 1-Propanol

B. 1-Butanol

C. 1-Pentanol

D. 1-Pentanol

Answer: D



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83. Which of the following alcohol is least soluble in water ?

A.  $CH_3OH$

B.  $C_3H_7OH$

C.  $C_6H_{13}OH$

D.  $C_{10}H_{21}OH$

**Answer: D**



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**84.** Alcohols are miscible with  $H_2O$  because of their

A. acidic character

B. H-bonding

C. alkyl group

D. dissociation

**Answer: B**



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**85.** Most viscous among the following is :

- A. Propane-1-ol
- B. Propane-2-ol
- C. Propane-1,2-diol
- D. Propane-1,2,3-triol

**Answer: D**



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**86.** The boiling point of glycerol is more than propanol because of

- A. Hydrogen bonding
- B. Hybridisation
- C. Arrangement of molecules
- D. Size of molecule

**Answer: A**



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**87.** Chloral is obtained by chlorination of

A. chloroform

B. ethanol

C. propanol

D. methanol

**Answer: B**



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**88.** Sodium will sink in



- A. water
- B. ethanol
- C. kerosene
- D. both ethanol & kerosene

**Answer: C**



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**89.** Which of the following is comparatively inert ?

- A. Ethoxyethane
- B. n-butyl chloride
- C. Phenol
- D. 1-butanol

**Answer: A**



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**90.** Chlorine reacts with ethanol to give

- A. chloroform
- B. Chloral
- C. Ethyl Chloride
- D. Methyl chloride

**Answer: B**



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**91.** Dehydration of methyl alcohol with conc.  $H_2SO_4$  yields

- A. methane
- B. ethane
- C. methyl hydrogen sulphate
- D. dimethyl ether

**Answer: D**



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92.  $C_2H_5OH$  can be distinguished from  $CH_3OH$

- A. by the action of HCl
- B. by the action of  $NH_3$
- C. by determining their solubilities in water
- D. by iodoform test

**Answer: D**



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**93.** Which of the following is responsible for iodoform reaction ? .

A. Formalin

B. Methanol

C. Acetic acid

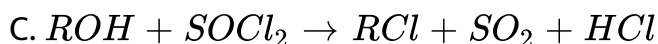
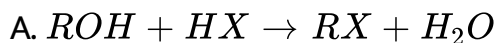
D. Ethanol

**Answer: D**



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94. The presence of the -OH group in alcohol is shown by the reaction



D. all of these

Answer: D



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95. When excess of alcohol is heated with conc.  $H_2SO_4$  at low temperature, the product formed is

A. ethane

B. ether

C. ethyl hydrogen sulphate

D. ethene

**Answer: B**



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**96.** Which of the following is obtained , on reduction of ketone ?

A.  $1^\circ$  alcohol

B.  $2^\circ$  alcohol

C.  $3^\circ$  alcohol

D. Methanol

**Answer: B**





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**97.** In esterification of an acid, the other reagent is

A. aldehyde

B. alcohol

C. amine

D. water

**Answer: B**



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**98.** When methyl alcohol is oxidised with acidified potassium dichromate, it forms

A. Formic acid

B. Formaldehyde

C. Methane

D. Acetaldehyde

**Answer: A**



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**99.** Vapour of tertiary butyl alcohol , when passed over heated  $Al_2O_3$  ( at around 575K), gives

A. an aldehyde

B. a ketone

C. an alkene

D. an acid



**Answer: C**



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**100.** If there be a compound of the formula  $CH_3C(OH)$  which one of the following compound would be obtained from it without reaction with any reagent

A. Methanol

B. Ethanol

C. Acetic acid

D. Formaldehyde

**Answer: C**



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**101.** In esterification reaction , conc.  $H_2SO_4$ , acts as

A. dehydrating agent

B. catalyst

C. an oxidizing agent

D. (a) and (b)

**Answer: D**



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**102.** The reaction between an alcohol and an acid with the elimination of water molecule is called

A. etherification

B. saponification

C. elimination

D. esterification

**Answer: D**



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**103.** 23 g of sodium will react with methyl alcohol to give :

A. one mole of oxygen

B.  $\frac{1}{2}$  mole of hydrogen

C. one mole of hydrogen

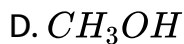
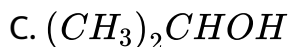
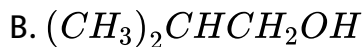
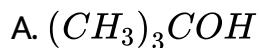
D. 2g of hydrogen

**Answer: B**



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104. Which of the following is the most reactive with HCl in the presence of  $ZnCl_2$ ?

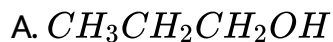


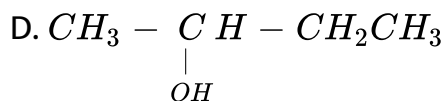
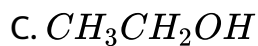
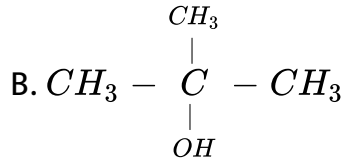
Answer: A



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105. In the reaction  $X \xrightarrow[443K]{H_2SO_4} Y \xrightarrow{HBr} Z \xrightarrow[H_2O]{KOH} CH_3 \underset{\substack{| \\ OH}}{C} HCH_3 X$  is

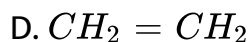
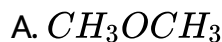




**Answer: A**

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**106.** Excess of ethanol is heated with conc.  $\text{H}_2\text{SO}_4$ . The product formed will be

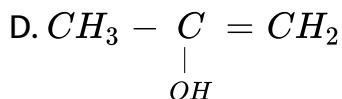
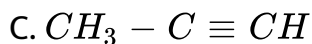
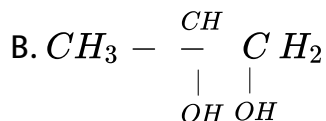
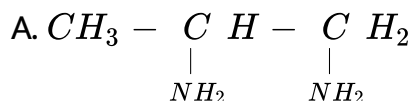
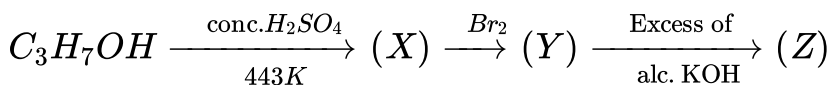


Answer: C



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107. Identify (Z) in the series.



Answer: C



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**108.** Iodoform is formed when ethanol is heated with

A.  $KI$  and  $NaOH$

B.  $I_2 + aq. KOH$

C.  $CHCl_3$  and  $I_2$

D.  $I_2 + KI$

**Answer: B**



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**109.** A compound X with molecular formula  $C_3H_8O$  can be oxidized to a compound Y with the molecular formula  $C_3H_6O_2$ . X is most likely to be a:

A. primary alcohol

B. secondary alcohol

C. Aldehyde

D. Ketone

**Answer: A**



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**110.** In  $CH_3OH$  the bond that undergoes heterolytic fission most readily is

A. C-C

B. O-H

C. C-O

D. C-H

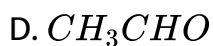
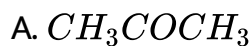
**Answer: B**



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111. Primary alcohols are obtained by the reaction of Grignard reagent with

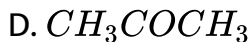
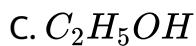
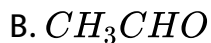
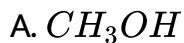


Answer: C



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112. Which of the following compound is the starting material for the preparation of  $CH_3I$ ?



**Answer: A**



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**113.** Tertiary alcohols are resistant to oxidation

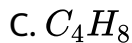
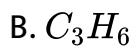
- A. due to large +I effect of alkyl group
- B. because they do not have alpha-hydrogen atom
- C. due to greater steric hindrance
- D. because of all the above

**Answer: D**



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**114.** Which of the following is obtained, when n-butyl alcohol is heated with concentrated  $H_2SO_4$  ?

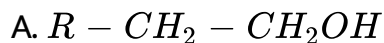


**Answer: C**



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115. In the reaction  $X \xrightarrow[K_2Cr_2O_7]{H_2SO_4} R_2CO \xrightarrow[(O)]{} RCOOH$  The compound X is :



D. either "b" or "c"

Answer: D



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116. The order of ease of dehydration of n , sec. and tert. Alcohol with conc.  $H_2SO_4$  is



B.  $1^\circ$  alcohol  $<$   $2^\circ$  alcohol  $<$   $3^\circ$  alcohol

C.  $1^\circ$  alcohol  $>$   $2^\circ$  alcohol  $<$   $3^\circ$  alcohol

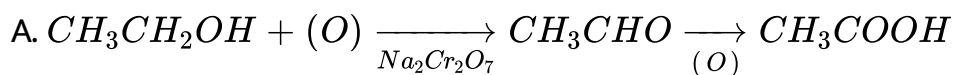
D. cannot predict

**Answer: B**

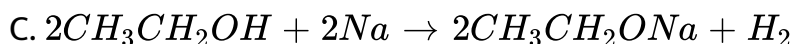
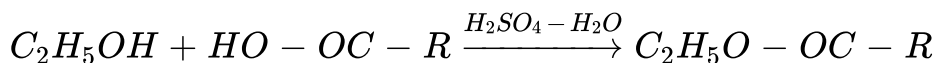


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117. Rupturing of the O-H bond in  $CH_3 - \overset{\overset{H}{|}}{\underset{\underset{H}{|}}{C}} - O - H$  is shown by reaction



B.



D. all the reactions.

**Answer: D**



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**118.** The order of ease of rupture of C-O bond in  $1^\circ$ ,  $2^\circ$  and  $3^\circ$  alcohol is

A. Tert.  $>$  Sec.  $>$  Prim.

B. Tert.  $<$  Sec.  $<$  Prim.

C. Tert.  $>$  Sec.  $<$  Prim.

D. cannot predict

**Answer: A**



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119. Primary Alkyl bromides are prepared by treating alcohols with

A. Red  $P$  and  $Br_2$

B.  $NaBr + H_2SO_4$

C.  $HBr$

D. all of thm .

Answer: D



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120. Methanol and ethanol may easily be distinguished from each other by their reaction with

A. alkaline  $NaOH + I_2$

B. ethanoic acid + conc.  $H_2SO_4$

C. sodium

D.  $PCl_5$

**Answer: A**



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**121.** Formation of 2-butene as major on dehydration of 2-butanol is according to

A. Wurtz reaction

B. Markownikoff's rule

C. Peroxide effect

D. Saytzeff rule

**Answer: D**



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122. Ethyl alcohol shows acidic character on reaction with

A. NaOH

B.  $CH_3COOH$

C. sodium

D. Both (b) and (c)

Answer: D



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123. A compound X with molecular formula  $C_3H_8O$  can be oxidised to a compound Y with the molecular formula  $C_2H_4O_2$ .

The compound X is likely to be

A. 1-propanol

B. 2-propanol

C. ethanol

D. butan-1-ol

**Answer: B**



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**124.** Which alcohol is difficult to oxidise ?

A. Methanol

B. 1-butanol

C. 2-propanol

D. 2-methyl-2-propanol

**Answer: D**



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**125.** Which alcohol on oxidation gives ketones as well as acid containing lesser number of carbon atoms than parent alcohol ?

- A. ethyl alcohol
- B. n-propyl alcohol
- C. n-butyl alcohol
- D. Tertiary butyl alcohol

**Answer: D**



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126. An organic compound on oxidation produces acetic acid, but on dehydration it gives propylene. It would like to be

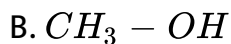
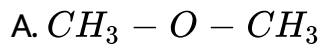
- A. n-propyl alcohol
- B. iso-propyl alcohol
- C. tert butyl alcohol
- D. sec. butyl alcohol

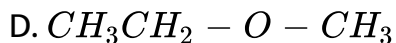
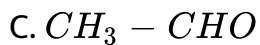
**Answer: B**



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127. Which of the following have more acidic character ?

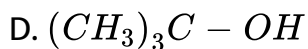
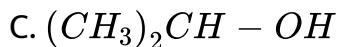
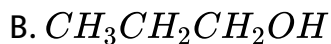
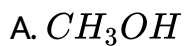




**Answer: B**

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**128.** Which of the following is more acidic than ethanol ?



**Answer: A**

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129. Reactivity of alcohol with metallic sodium is in the order

A.  $1^\circ > 2^\circ > 3^\circ$

B.  $2^\circ > 1^\circ > 3^\circ$

C.  $3^\circ > 2^\circ > 1^\circ$

D.  $3^\circ > 1^\circ > 2^\circ$

Answer: A



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130. Ethyl alcohol reacts with sodium with evolution of  $H_2$  gas.

Ethyl alcohol is

A. Strongly acidic

B. Strongly basic

C. Weakly basic

D. Very weakly acidic

**Answer: D**



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**131.** Reactivity of hydrogen chloride towards  $1^\circ$ ,  $2^\circ$ ,  $3^\circ$  alcohols is in the order

A.  $3^\circ > 2^\circ > 1^\circ$

B.  $1^\circ 2^\circ > 3^\circ$

C.  $2^\circ > 3^\circ > 1^\circ$

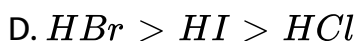
D.  $3^\circ > 1^\circ > 2^\circ$

**Answer: A**



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**132.** For a given alcohol , the order of reactivity with halogen acids is



**Answer: A**



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**133.** The most suitable oxidising agent for tertiary alcohol must be

A. neutral



B. alkaline

C. acidic

D. gas

**Answer: B**



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**134.** When wine is put in air , it becomes sour due to

A. oxidation of  $C_2H_5OH$

B. reduction of  $C_2H_5OH$

C. formation of  $C_2H_5NH_2$

D. dissolution of  $CO_2$

**Answer: A**



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**135.** HBr reacts fastest with

- A. 2-methyl propan-2-ol
- B. propanol -1
- C. propanol-2
- D. 2-methyl propanol-1

**Answer: A**



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**136.** Ethyl alcohol on oxidation with dil. acid and  $K_2CrO_7$  gives

- A. Formic acid
- B. Formaldehyde

C. ethene

D. Acetaldehyde

**Answer: D**



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**137.** An organic compound gives hydrogen on reacting with sodium. It also gives iodoform test and forms an aldehyde of molecular formula  $C_2H_4O$  on oxidation. Name the compound.

A.  $CH_3OH$

B.  $CH_3COOH$

C.  $CH_3CHO$

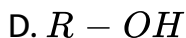
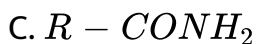
D.  $C_2H_5OH$

**Answer: D**



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**138.** Sodium metal reacts readily with



**Answer: D**



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**139.** A compound  $X$  of formula  $C_3H_8O$  yields a compound  $C_3H_6O$ , on oxidation. To which of the following classes of compounds could  $X$  be

- A. Aldehyde
- B. secondary alcohol
- C. Alkene
- D. Tertiary alcohol

**Answer: B**



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**140.** Ethyl alcohol is denatured by adding :

- A. Glycerol
- B. Methanol
- C. Aniline
- D. Ether and Ethanol

**Answer: B**



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**141.** Ethyl alcohol on oxidation by acidified  $K_2Cr_2O_7$  gives

A. ethanal

B. methanal

C. acetic acid

D. both a and c

**Answer: D**



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**142.** An alcohol on oxidation gives carboxylic acid containing one carbon atom less, which is that ?

- A. Ethanol
- B. 2-propanol
- C. 1-propanol
- D. Tert. butyl alcohol

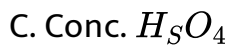
**Answer: B**



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**143.** Which of the following is used as dehydrating agent for alcohols ?

- A.  $HCl$

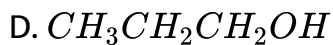
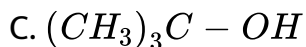
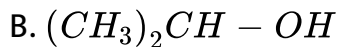
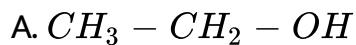


**Answer: C**



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**144.** Which of the following alcohol reacts easily with sodium metal ?





**Answer: A**



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**145.** Oxidation of 2-methyl-2-propanol by acidified  $K_2Cr_2O_7$  produces

- A. acetic acid
- B. propanoic acid
- C. acetaldehyde
- D. formic acid

**Answer: A**



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**146.** A Compound X with molecular  $C_3H_8O$  on oxidation gives compound Y with molecular form  $C_2H_4O_2$ . The compound X will be

- A. 1-propanol
- B. 2-propanol
- C. ethanol
- D. propanal

**Answer: B**



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**147.** Which of the following compounds is oxidised to prepare methyl ethyl ketone?

A. 2-propanol

B. 1-propanol

C. 2-butanol

D. Ethanol

**Answer: C**



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**148.** In the presence of an acid catalyst, two alcohol molecules will undergo dehydration to give

A. ether

B. ester

C. anhydride

D. acid

**Answer: A**



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**149.** Ethanol react with thionyl chloride to give ethyl chloride and

A.  $S$ ,  $SO_2$

B.  $SO_2$ ,  $HCl$

C.  $Cl_2$ ,  $SO_3$

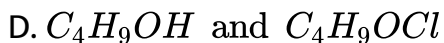
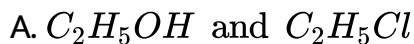
D.  $SO_3$ ,  $HCl$

**Answer: B**



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150. An organic compound A reacts with  $PCl_5$  to give compound B. Compound B reacts with Na/ether to give n-butane. What are compounds A and B ?



**Answer: A**



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151.  $C_2H_5OH$  can be distinguished from  $CH_3OH$

A. by the action of HCl

B. by the action of  $NH_3$

C. Determination of solubility in water

D. Iodoform test

**Answer: D**



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**152.**  $1^\circ$ ,  $2^\circ$   $3^\circ$  alcohols in small quantities are given in three different test tubes. Conc.  $HCl$  + anhydrous  $ZnCl_2$  is added to each test tube. Immediately cloudiness appears in one of the test tubes. The alcohol of this test tube is

A.  $1^\circ$  primary

B.  $2^\circ$  secondary

C.  $3^\circ$  tertiary

D. methyl

**Answer: C**



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**153.** When excess vapour of ethyl alcohol are passed over heated alumina at 523K, the main product formed is

A. ethylene

B. ethyl alcohol

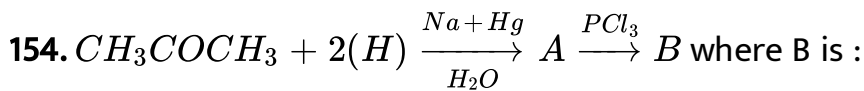
C. ethane

D. ethyl hydrogen sulphate

**Answer: A**



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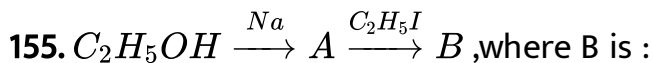


- A. 1 chloro propane
- B. 2 chloro propane
- C. chloro ethane
- D. chloro propane

**Answer: B**



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- A. methoxy ethane
- B. methoxy propane
- C. ethoxy ethane

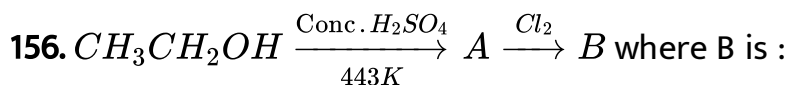


D. ethoxy propane

**Answer: C**



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A. ethylene dichloride

B. ethyl chloride

C. methyl chloride

D. ethylidene dichloride

**Answer: A**



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**157.** Nitrating mixture is

A. conc.  $HNO_3$  + conc.  $H_2SO_4$

B. conc.  $HNO_3$  + conc.  $HCl$

C.  $KNO_3$  + conc.  $HNO_3$

D.  $KNO_3$  + conc.  $H_2SO_4$

**Answer: A**



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**158.** Lucas reagent is a mixture of

A. conc.  $HCl$  and anhydrous  $ZnCl_2$

B. conc.  $HCl$  and hydrous  $ZnCl_2$

C. conc.  $HNO_3$  and hydrous  $ZnCl_2$

D. conc.  $HNO_3$  and anhydrous  $ZnCl_2$

**Answer: A**



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**159.** An aldehyde is obtained when an alcohol is

A. Oxidised

B. Reduced

C. Dehydrated

D. Hydrogenated

**Answer: A**



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160. Which alcohol is difficult to oxidize ?

A. ethanol

B. butan-1-ol

C. 2-methyl-2-propanol

D. Methanol

Answer: C



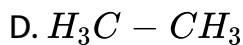
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161.  $CH_3 - CH = CH_2 \xrightarrow[+ H_2O]{Conc. H_2SO_4} P \xrightarrow{PCl_3} Q \xrightarrow[KOH]{alcoholic} R.$  The compound R is

A.  $CH_2 = CH_2$

B.  $CH_3 - CH = CH_2$

C.  $CH_3 - CH_2 - CH_2$

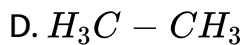
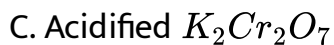
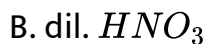


**Answer: B**



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**162.** For the oxidation of alcohols, the following oxidizing agents are used



**Answer: D**



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163.  $C_3H_7Br \xrightarrow{AgOH} A \xrightarrow[\Delta]{Conc.H_2SO_4} B \xrightarrow{HBr} C$  The organic compound C is :

- A. n-propyl bromide
- B. iso-propyl bromide
- C. sec-propyl bromide
- D. Both b and c

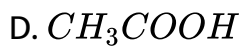
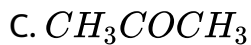
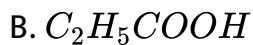
**Answer: D**



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164.  $(CH_3)_3C - OH + (O) \xrightarrow[-H_2O - CO_2]{Oxidation} A + (O) \xrightarrow[-H_2O - CO_2]{Oxidation} B$ . The organic compound B is :

- A.  $CH_3CH_2COOH$

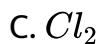


**Answer: D**



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**165.** From an alcohol molecule, the hydroxyl group cannot be replaced by using the following reagents :

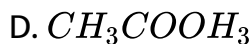
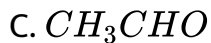
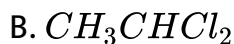
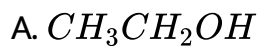


Answer: C



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166. The dihydric alcohol ,  $CH_3 - CH(OH)_2$  gives rise to the following compound , without acted upon by an reagent



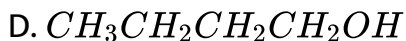
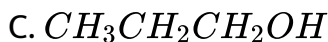
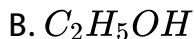
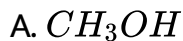
Answer: C



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167.  $ROH \xrightarrow{HBr} RBr \xrightarrow{CH_3COOAg} CH_3COOC_2H_5$  The ROH is

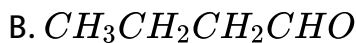
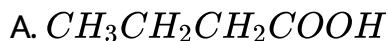


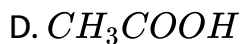
Answer: B



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168. 1-butanol is treated with alkaline  $KMnO_4$  gives



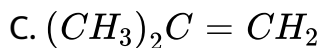
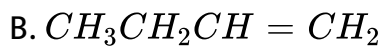
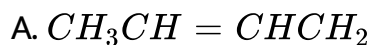


Answer: A



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169. t-butyl alcohol heated with  $Al_2O_3$  gives



D. all of these

Answer: C



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170. The bond that undergoes heterolytic cleavage most readily is

A. C-C

B. C-O

C. C-H

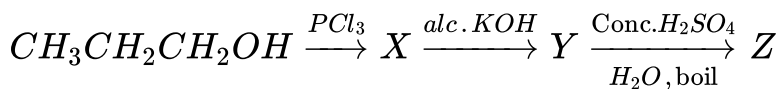
D. O-H

Answer: D



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171. In the sequence of reaction, identify (Z).



A.  $CH_3CH_2CH_2OH$

B.  $CH_3CHOHCH_3$

C.  $(CH_3CH_2)_3COH$



**Answer: B**



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**172.** Final product by the treatment of isobutyl alcohol with alumina is

- A. 2-methyl 1-propene
- B. 2-methyl 2-propene
- C. ethyl t-butyl ether
- D. acetone and acetic acid

**Answer: A**



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173. Which of the following is oxidized to form ethyl methyl ketone ?

A. 2-propanol

B. 2-butanol

C. 1-butanol

D. 1-propanol

Answer: B



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174. The reaction :  $CH_3CH_2OH \xrightarrow[453K]{95\% H_2SO_4} CH_2 = CH_2 + H_2O$

is an example of

A. dehydration

B. dehydrogenation

C. hydration

D. decarboxylation

**Answer: A**



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**175.** 23 g of sodium will react with methyl alcohol to give :

A. half mole of  $H_2$

B. one mole of  $O_2$

C. one mole of  $H_2$

D. either b or c

**Answer: A**



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**176.** Tertiary alcohols are resistant to oxidation

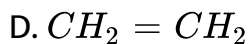
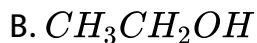
- A. they do not have  $\alpha$ -hydrogen atom
- B. due to large +I effect of alkyl group
- C. due to greater steric hindrance
- D. all of these

**Answer: D**



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**177.** Unknown compound (X) on hydration by conc.  $H_2SO_4$  gives (Y). The compound (Y) on oxidation gives acetone . The compound (X) is



**Answer: A**



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**178.** Alkenes are obtained from alcohols by

A. oxidation

B. hydration

C. intermolecular dehydration

D. intramolecular dehydration



Answer: D

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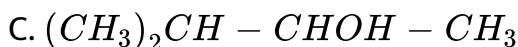
179.  $(CH_3)_2CH - \overset{\overset{OH}{|}}{C}H - CH_3 \xrightarrow{Al_2O_3} X$  Give the IUPAC name of product formed in the reaction.

- A. 3-methyl-2-butene
- B. isobutylene
- C. 2-methyl 2-butene
- D. 2-methyl 1-propene

Answer: C

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**180.** An organic compound (A) produces  $(CH_3)_2C = CH - CH_3$  on dehydration. The compound is



D. Both b and c

**Answer: D**



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**181.** A ketone (A) which undergoes reduction to give (B). (B) on heating with sulphuric acid gives mixture of 1-butene and 2-butene. Identify (A) and (B). On heating with sulphuric acid gives mixture of 1-butene and 2-butene. Identify (A) and (B).

- A. Butanone, 2-propanol
- B. Butanone , 2-butanol
- C. Propanone, 2-propanol
- D. Propanone, 2-butanol

**Answer: B**



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**182.** In  $(CH_3)_3COH$

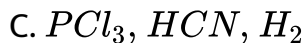
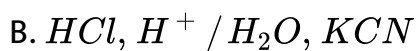
- A. C-O bond is weak
- B. O-H bond is strong
- C. Both C-O and O-H bonds are weak
- D. Both a and b

Answer: D



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183.  $RCH_2OH$  can be converted into  $RCH_2COOH$ . The correct sequence of reagent is



Answer: A



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**184.** Oxidation products of alcohols depends upon

- A. —  $OH$  groups of alcohols
- B. Carbon atom of alcohols
- C. Number of hydrogen atoms attached to hydroxyl bearing carbon
- D. Conditions

**Answer: C**

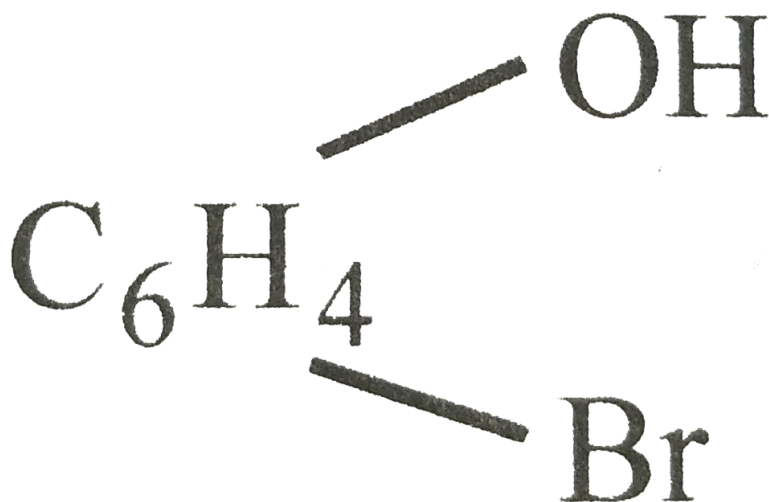


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185.

The

compound



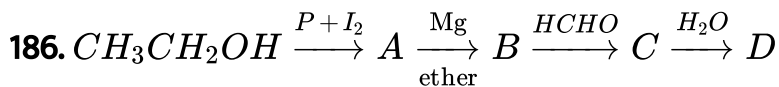
can

definitely be called

- A. o-bromophenol
- B. m-bromophenol
- C. bromophenol
- D. p-bromophenol

**Answer: C**





The product 'D' is-

- A. Propanol
- B. n-butyl alcohols
- C. Butanal
- D. n-propyl alcohol

**Answer: D**

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187. Which of the following alcohol on heating with conc.  $H_2SO_4$  gives product, which show geometrical isomerism ?

A. 2,4-dimethyl pentan-3-ol

B. 2-methyl butan 2-ol

C. Butan-2-ol

D. All of the above

**Answer: C**



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**188.** 4.6 gram ethanol when reacts with sodium metal \_\_\_\_\_ is formed.

A. 11.2 litre  $H_2$  at STP

B. 1.12 litre  $H_2$  at STP

C. 1.12 litre  $O_2$  at STP

D. 11.2 litre  $H_2$  at STP

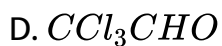
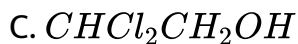
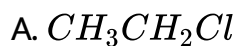


**Answer: B**



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**189.** When ethyl alcohol is treated with  $Cl_2$  we get



**Answer: D**



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**190.** Which of the following alcohol is used in bevarages ?

- A. Methyl alcohol
- B. Ethyl alcohol
- C. n-propyl alcohol
- D. Isopropyl alcohol

**Answer: B**



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**191.** Ethanol is used

- A. in the manufacture of chloroform
- B. as a fuel in spirit lamp
- C. as an important bevarage
- D. all of these

**Answer: D**



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**192.** Methanol is used

- A. As substitue for petrol
- B. As an antifreeze for autmobile radiators
- C. In the manufacture of perfumes and drugs
- D. As solvent for beverages

**Answer: B**



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**193.** Which of the following compounds is used as an antiseptic ?

A.  $CH_3OH$

B. Iodoform

C.  $CH_3COOH$

D. Both (a) and (b)

**Answer: B**



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**194.** Ethanol is used for the preparation of :

A. DDT

B. Gammexane

C. Throat point

D. Tincture iodine

**Answer: A**



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**195.** Power alcohol is :

A. absolute alcohol + methyl alcohol

B. absolute alcohol + petrol

C. rectified alcohol + petrol

D. denatured alcohol+ petrol

**Answer: B**



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**196.** Which one of the following statement is wrong ?

- A.  $CH_3OH$  is used for drinking purposes.
- B.  $CH_3OH$  is highly poisonous compound.
- C.  $CH_3OH$  is smallest alcohol
- D.  $CH_3OH$  is soluble in water .

**Answer: A**



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**197.** Ethanol containing some methanol is called

- A. methylated spirit
- B. rectified spirit
- C. absolute spirit
- D. spirit

**Answer: A**



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**198.** Rectified spirit can be dried with

A. Conc.  $H_2SO_4$

B. CaO

C. anhydrous  $CaCl_2$

D. slaked lime

**Answer: C**



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**199.** The percentage of ethyl alcohol in rectified spirit is

A. 100

B. 59.6

C. 95.87

D. 50

**Answer: C**



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**200.** Alcoholic beverages contain

A. ethanol

B. glycol

C. glycerol

D. methanol



**Answer: A**



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**201.** Wood alcohol is

A. phenol

B.  $CH_3OH$

C.  $C_2H_5OH$

D.  $CH_3COOH$

**Answer: B**



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**202.**  $C_6H_5CH_2OH$  is

- A. Phenol
- B. Alcohol
- C. Carbolic acid
- D. (a) and (c)

**Answer: B**



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**203.** The number of possible primary alcohols with the molecular  $C_4H_{10}O$  is:

- A. 1
- B. 2
- C. 3
- D. 4

**Answer: B**



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**204.** Sorbitol is a alcohol which is

A. Monohydric

B. Trihydric

C. Dihydric

D. Hexahydric

**Answer: D**



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**205.** Ethylethanoate on reduction with  $LiAlH_4$  gives

A. Butanol

B. Ethanol

C. Ethanoic acid , ethanol

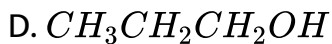
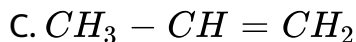
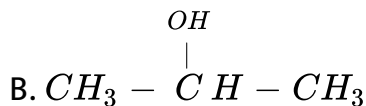
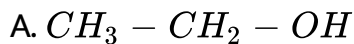
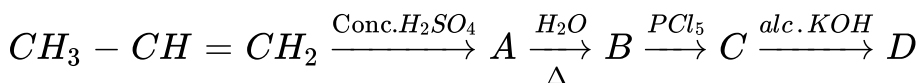
D. Ethanol , propanol

**Answer: B**



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**206.** Identify D in the following reaction series :



**Answer: C**



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**207.** Which of the following alcohols cannot be prepared by the action of a suitable Grignard reagent on an aldehyde or a ketone followed by hydrolysis ?

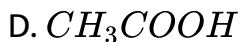
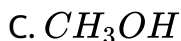
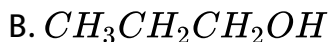
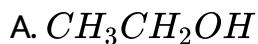
- A. ethyl alcohol
- B. isopropyl alcohol
- C. n-propyl alcohol
- D. methanol

**Answer: D**



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**208.** Compound (A) reacts with  $SOCl_2$  to give compound (B). The compound (B) reacts with Mg metal to give Grignard's reagent, which is treated with acetone and the product is hydrolysed to give 2-methyl-2-butanol. What is (A)?



**Answer: A**



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**209.** Which of the following is not a characteristic of alcohol?

A. They are lighter than water.

B. Their boiling points rise fairly uniformly with rising molecular weight .

C. Lower members are insoluble in water and organic solvents but the solubility regularly increase with molecular weight .

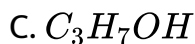
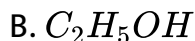
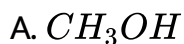
D. Lower members have a pleasant smell and burning taste , higher members are odourless and tasteless .

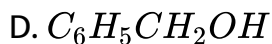
**Answer: C**



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**210.** Which of the following alcohols is least soluble in water ?





**Answer: D**



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**211.** The correct order of increasing boiling point is

A. n-butane < 1-butanol < n-butyl chloride < isobutene

B. n-butane < isobutane < n-butyl chloride < 1-butanol

C. isobutane < n-butyl chloride < n-butane < 1-butanol

D. isobutane < n-butane < n-butyl chloride < 1-butanol

**Answer: D**



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**212.** Glycerol is highly viscous. It is due to the fact that

- A. It is highly polar
- B. It forms extensive H-bonding
- C. It shows intramolecular H-bonding
- D. It has high boiling point

**Answer: B**



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**213.** Dehydration is most easy for

- A.  $CH_3OH$
- B. primary alcohol
- C. secondary alcohol
- D. Tertiary alcohol

**Answer: D**



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**214.** Which of the following does not give iodoform on warming with  $I_2$  and alkali ?

A. Iso-propyl alcohol

B. n-propyl alcohol

C. Ethyl alcohol

D. Acetone

**Answer: B**



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**215.** What is formed when primary alcohol undergoes catalytic dehydrogenation ?

A. Aldehyde

B. Ketone

C. Alkene

D. Acid

**Answer: A**



**Watch Video Solution**

**216.** 1 mol. of  $PCl_5$  reacts with alkyl alcohol to give

A.  $\frac{1}{2}$  mol. of  $Cl_2$

B. 1 mol. of HCl

C. 1 mol.of  $Cl_2$

D.  $1/2$  mol. of HCl

**Answer: B**



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**217.** Which of the following will react most easily with HCl in the presence of  $ZnCl_2$  ?

A. Ter-butyl alcohol

B. Iso butyl alcohol

C. Ethyl alcohol

D. Methyl alcohol

**Answer: A**



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**218.** The alcohol, which cannot undergo intramolecular dehydration reaction is

- A. Methanol
- B. Ethanol
- C. 1-Propanol
- D. 2-Propanol

**Answer: A**



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**219.** When alcohol are reacted by HCl, in presence of anhydrous  $ZnCl_2$ , the latter one behaves as a

- A. Catalyst
- B. Reducing agent
- C. Dehydrating agent
- D. Oxidising agent

**Answer: C**



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**220.** The product of the reaction of  $(C_2H_5)_2CHCHOHCH_3$  with conc.  $H_2SO_4$

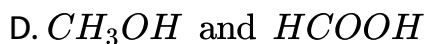
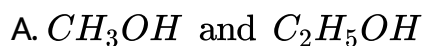
- A.  $(CH_3CH_2)_2CH - CH = CH_2$
- B.  $CH_3 - CH(C_2H_5)CH = CH - CH_3$
- C.  $(C_2H_5)_2C = CH - CH_3$
- D. both a and b

Answer: C



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221. The organic compound (A) and (B) reacts with sodium metal and release  $H_2$  gas. Then (A) and (B) reacts each other to give methyl propanoate. The compound (A) and (B) are

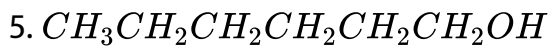
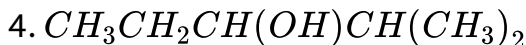
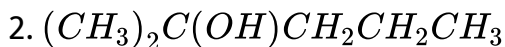


Answer: C



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**222.** Place the following alcohols in decreasing order of rate of dehydration with concentration  $H_2SO_4$ .



A.  $4 > 2 > 1 > 3$

B.  $4 > 3 > 2 > 1$

C.  $1 > 2 > 3 > 4$

D.  $4 > 3 > 1 > 3$

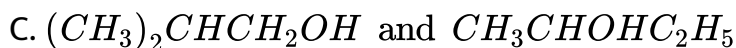
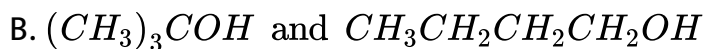
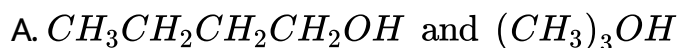
**Answer: A**



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**223.** An alcohol (A)  $C_4H_{10}O$  on oxidation with acidified  $K_2Cr_2O_7$  gives a carboxylic acid (B)  $C_4H_8O_2$ . (A) on treatment with conc.  $H_2SO_4$  produces (C)  $C_4H_8$ . (C) on treatment with dil.  $H_2SO_4$  gives (D)  $C_4H_{10}O$ . The compound (D) is isomeric with compound (A). Compound (D) resist oxidation. What are (A) and (D) respectively ?



**Answer: D**



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**224.** The alcohol used in preparation of formalin is

- A. methyl alcohol
- B. ethyl alcohol
- C. n-propyl alcohol
- D. iso-propyl alcohol

**Answer: A**



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**225.** Grain alcohol is common name of

- A. amyl alcohol
- B. ethyl alcohol
- C. methanol

D. n-propyl alcohol

**Answer: B**



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**226.** Ethylene glycol is used

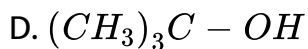
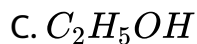
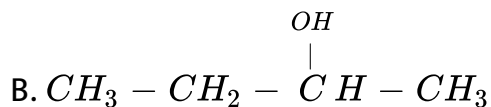
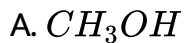
- A. as an antifreeze in automobile radiations
- B. for preventing the depositions of ice on the wings of aeroplane
- C. as a solvent and preservative
- D. all of these

**Answer: D**



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227. Cabinol is represented by the formula

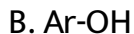
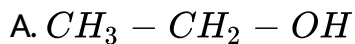


Answer: A



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228. The general formula of monohydric phenol is



D. Ar-CHO

**Answer: B**



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**229.** A compound , in which the OH group is directly attached to the carbon atom of the benzene ring is called

- A. alcohol
- B. phenol
- C. haloalkane
- D. haloarene

**Answer: B**



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**230.** Phenols are hydroxy compounds of

- A. Alkane
- B. Alkene
- C. Benzene
- D. Alkyne

**Answer: C**



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**231.** The IUPAC name of the picric acid is

- A. 2,4,6- trinitrophenol
- B. 2,4,6-trinitro-1-hydroxy hexane
- C. 2,4,6-trinitro-1-hydroxy benzene

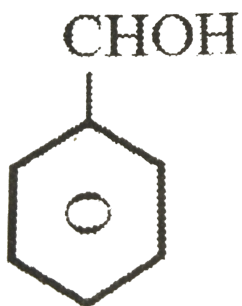
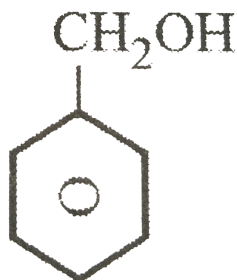
D. 1,3,5-trinitro-6-hydroxy benzene

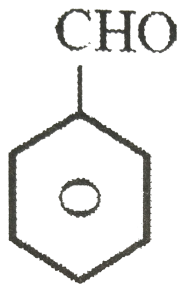
Answer: A



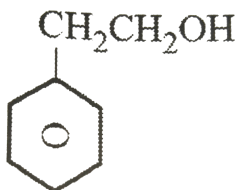
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232. Which of the following compound is 2-phenyl ethanol ?





C.



D.

**Answer: D**



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**233.** Aromatic mono hydroxy compound is called

A. alcohol

B. Carbolic acid

C. Benzol



D. Benzyl alcohol

**Answer: B**



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**234.** A compound in which -OH directly attached to benzene ring is called

A. alcohol

B. glycol

C. phenol

D. acid

**Answer: C**



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**235.** Phenol is

- A. a base weaker than  $NH_3$
- B. an acid stronger than carboxylic
- C. an acid weaker than carboxylic
- D. neutral

**Answer: C**



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**236.** An organic compound , in which the hydroxyl group is not directly attached to an aromatic ring (benzene) is called

- A. Phenol
- B. Aliphatic alcohol

C. Aromatic alcohol

D. Cresol

**Answer: B**



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**237.** Phenyl methyl alcohol is nothing but

A. Benzene alcohol

B. Benzyl alcohol

C. Alcohol of Benzene

D. Phenols

**Answer: B**



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**238.** Acidic nature of phenol is due to

- A. phenolic group
- B. benzene group
- C. hydrogen bonding
- D. resonance stabilization of phenoxide ion

**Answer: D**



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**239.** The number of  $\sigma$  and  $\pi$ -bonds present in the molecular of carbolic acid are respectively.

- A. 7,3
- B. 2,3

C. 4,3

D. 13,3

**Answer: D**



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**240.** Which of the following is most acidic ?

A. Picric acid

B. 2,4-Dinitrophenol

C. 2-Nitrophenol

D. m-Nitrophenol

**Answer: A**

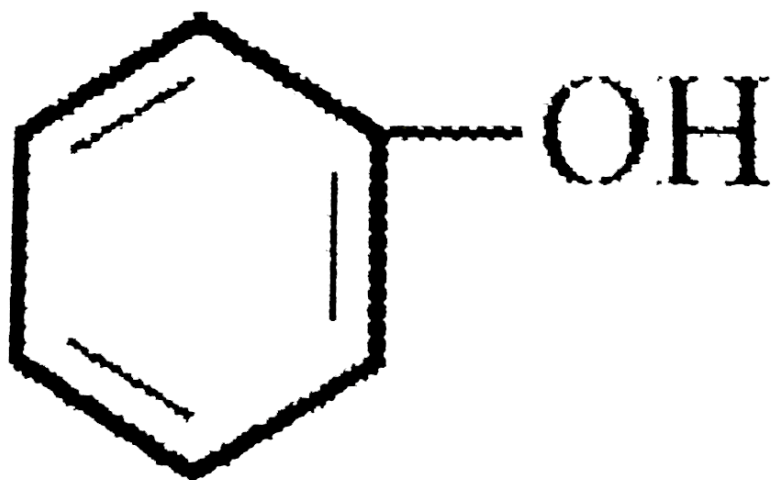


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241.

The

compound



is :

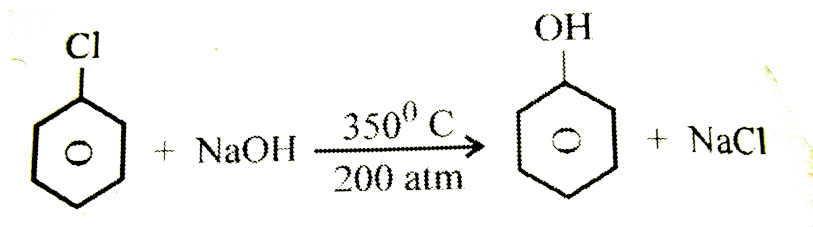
- A. o-phenol
- B. p-phenol
- C. m-phenol
- D. phenol

**Answer: D**



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242. What does the following reaction equation illustrate ?



- A. Dow's process
- B. Kolbe's reactions
- C. Carbylamine test
- D. Haloform reaction

**Answer: A**



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243. The commercial preparation of phenol is made by

- A. chlorobenzene

B.  $CHCl_3$

C.  $C_6H_5SO_3Na$

D. either a or c

**Answer: D**



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**244.** Phenol is

A. neutral compound

B. weaker acid than  $NH_3$

C. weaker acid than carboxylic acid

D. stronger acid than carboxylic acid

**Answer: C**





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**245.** Phenol when pure is

- A. Colourless crystalline acid
- B. Pink hygroscopic liquid
- C. Colourless amorphous solid
- D. Pink crystalline solid

**Answer: A**



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**246.** In laboratory phenol is generally prepared from

- A. Sodium benzene sulphonate
- B. Chlorobenzene

C. Cumene

D. Aniline

**Answer: A**



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**247.** Now-a-days phenol is manufactured from

A. chlorobenzene

B. Aniline

C. Isopropyl benzene

D. Benzene sulphonic acid

**Answer: C**



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**248.** Cumene on air oxidation gives

- A. Cumene hydroperoxide
- B. Benzoic acid
- C. Isopropyl benzene
- D. Phenol

**Answer: A**



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**249.** The Fridel-Craft reaction of benzene is used to prepare

- A. Phenol
- B. Cumene
- C. Isopropyl benzene

D. Both b and c

**Answer: D**



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**250. Phenols are**

A. basic in nature

B. acidic in nature

C. neutral in nature

D. amphoteric

**Answer: B**



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**251.** Which of the following is incorrect

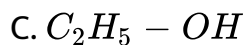
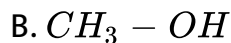
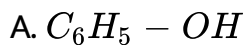
- A. Alcohol is neutral in nature
- B. Phenol is weak acidic in nature
- C. Alcohol shows acidic properties when they combine with sodium metal.
- D. Phenol is basic in nature .

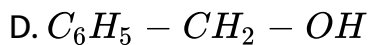
**Answer: D**



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**252.** Which of the following have more acidic character ?





**Answer: A**



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**253.** In preparation of phenol from cumene , important biproduct obtained is

A. ethanal

B. ethanol

C. acetaldehyde

D. acetone

**Answer: D**



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**254.** Chlorobenzene on heating with NaOH at 633 K under pressure gives

- A. phenol
- B. chlorophenol
- C. cyclohexanol
- D. sodium phenoxide

**Answer: D**



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**255.** Cumene hydroperoxide on decomposition by dil. acid gives mixture of

- A. phenol and acetaldehyde

- B. phenol and acetone
- C. phenol and water
- D. phenol and ethyl alcohol

**Answer: B**



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**256.** Phenol can be obtained from the following compounds:

- A. Cumene
- B. iso-Propyl benzene
- C. 2-Phenyl propane
- D. all these

**Answer: D**





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**257.** When chlorobenzene is heated under pressure at the following temperature during Dow's process, phenol is obtained.

- A. 323K
- B. 523 K
- C. 623 K
- D. 423K

**Answer: C**

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**258.** To convert iso-propyl benzene into cumene hydroperoxide , the following catalyst is used :

A. Co-napthenate

B.  $Ca_3(PO_4)_2$

C.  $Al_2O_3$

D.  $SiO_2$

**Answer: A**



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**259.** In the preparation of phenol using chlorobenzene at about 623K, the following solution of caustic soda is used

A. 1-2%

B. 6-8%

C. 20-30%

D. 15-20%

**Answer: B**



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**260.** Cumene , from which phenol can be obtained , is

- A. phenyl n-propane
- B. isopropyl benzene
- C. chlorobenzene
- D. benzene

**Answer: B**



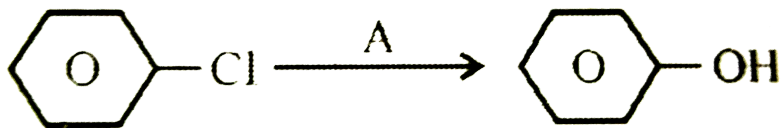
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261. Sodium salt of benzene sulphonic acid on fusion with caustic soda and followed by treatment with HCl gives

- A. acetic acid
- B. Cumene
- C. phenol
- D. picric acid

Answer: C

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262.

A can

be :

A.  $SiO_2$

B.  $SiO_2$ /steam

C. steam

D. aq. KOH

**Answer: B**



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**263.** Picric acid is obtained by the action of phenol with

A. Nitrous acid

B. Dil. Nitric acid

C. Conc. Nitric acid

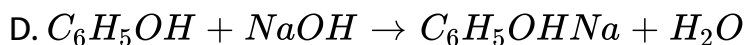
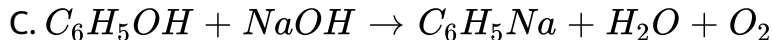
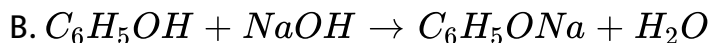
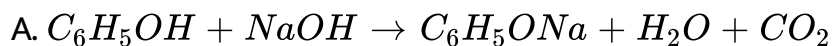
D.  $H_2SO_4$

**Answer: C**



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**264.** Dissolution of phenol in NaOH is represented as



**Answer: B**



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**265.** Which of the following reactions confirm the presence of benzene ring in phenol ?

- A. Halogenation
- B. Sulphonation
- C. Nitration
- D. All of these

**Answer: D**



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**266.** Which of the following is used in preparation of Bakelite polymer ?

- A. Phenol

B. Ethanol

C. o-nitrophenol

D. p-bromophenol

**Answer: A**



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**267.** Phenol is less acidic than

A. Ethanoic acid

B. Ethanol

C. Cresol

D. Benzyl alcohol

**Answer: A**





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**268.** Phenol (1 mole ) reacts with bromine to give tribromophenol .

The amount of bromine required is

A. 3.0 mole

B. 1.5 mole

C. 4.5 mole

D. 6.0 mole

**Answer: A**



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**269.** At which of the following reaction condition phenol gives O-phenol sulphonic acid ?

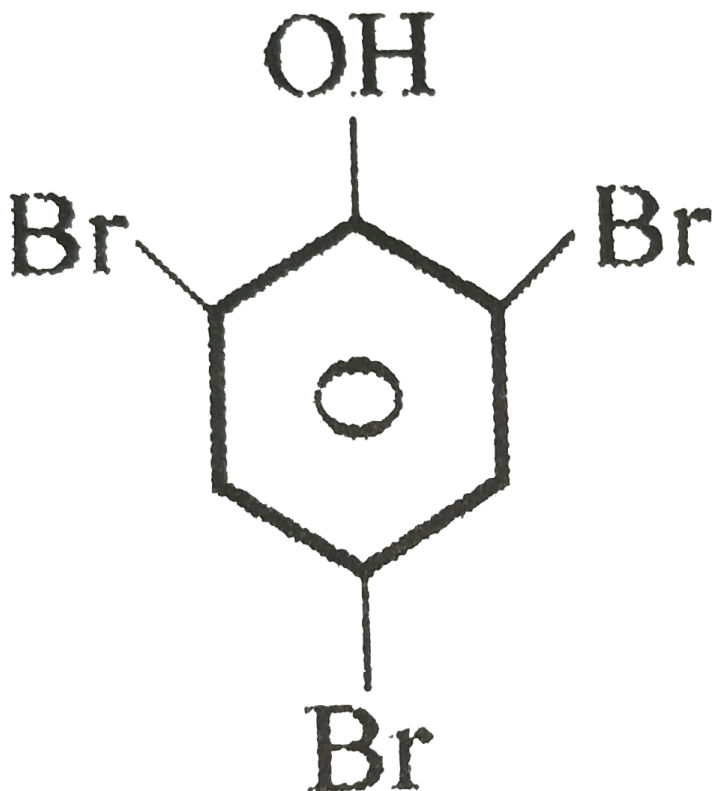
- A. Conc.  $H_2SO_4$  at high pressure
- B. Dil.  $H_2SO_4$  at low temperature
- C. Conc.  $H_2SO_4$  at low temperature
- D. Dil.  $H_2SO_4$  at high temperature

**Answer: C**



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270. The IUPAC name of the given compound is



- A. 2,4,6-tribromophenol
- B. 2,4,6-trinitrophenol
- C. 2-hydroxy-1,3,5-tribromobenzene
- D. 1-hydroxy-2,4,6-tribromobenzene

**Answer: A**



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**271.** Phenol reacts with  $Br_2$  in  $CCl_4$  at low temp. to give

- A. m-bromophenol
- B. P-bromophenol
- C. mix of O and P-bromophenol
- D. dibromo phenol

**Answer: C**



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**272.** Phenol on heating with nitrating mixture produces which of the following ?

- A. Picric acid
- B. O-nitric phenol
- C. P-nitro phenol
- D. M-nitro phenol

**Answer: A**



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**273.** Phenol undergoes aromatic substitution to give

- A. o-disubstituted product
- B. p-disubstituted products

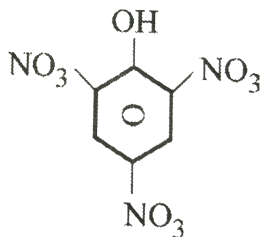
C. o and p-disubstitute products

D. m-disubstitute product

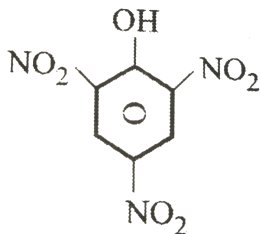
**Answer: C**

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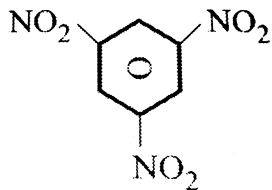
**274.** Correct structure of picric acid is



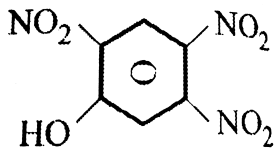
A.



B.



C.



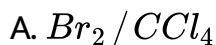
D.

**Answer: B**



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



D. neutral  $FeCl_2$

**Answer: C**



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**276.** In the nitration of phenol with a mixture of conc.  $HNO_3$  and conc.  $H_2SO_4$ , the active species involved is

A. nitrite ion

B. nitronium ion ( $NO_2^+$ )

C. nitrate ion

D. nitrogen peroxide

**Answer: B**



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**277.** Under different conditions nitration of phenol yields

- A. o-nitrophenol
- B. p-nitrophenol
- C. 2,4,6-trinitrophenol
- D. all these

**Answer: D**



**Watch Video Solution**

**278.** Picric acid is

- A. a volatile liquid
- B. trinitroaniline
- C. 2,4,6-trinitrophenol

D. butyric acid

**Answer: C**



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**279.** For preparing monohalogen derivative of phenol ,  
halogenation is carried out

- A. at high temperature
- B. at low temperature
- C. in presence of non-polar solvents
- D. Both b and c

**Answer: D**



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**280.** Carboic acid is reacted with conc.  $H_2SO_4$  at 300K gives

- A. 2-phenol sulphonic acid
- B. 3-phenol sulphonic acid
- C. 4-phenol sulphonic acid
- D. 2 and 4-phenol sulphonic acid

**Answer: A**



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**281.** Phenol on standing in air develops a red colour due to the formation of

- A. Resorcinol
- B. Phenoquinone

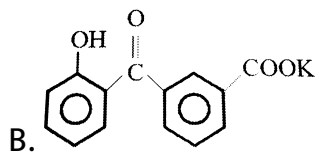
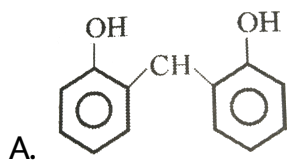
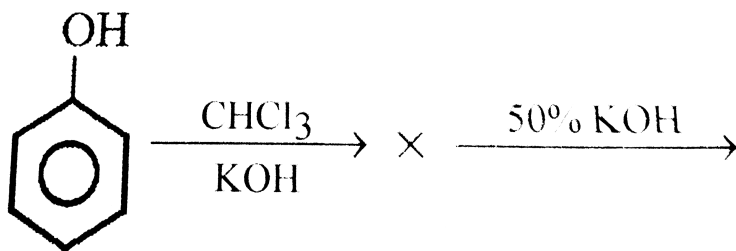
C. Quinol

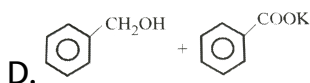
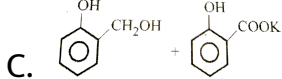
D. Cyclohexanone

**Answer: B**

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**282.** The final product of the following reaction is/are





**Answer: C**

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**283.** An organic compound 'X' with molecular formula  $C_7H_8O$  is insoluble in aqueous  $NaHCO_3$  but dissolved in NaOH. When treated with bromine water 'X' rapidly gives 'Y' ( $C_7H_5OBr$ ). The compound 'X' and 'Y' respectively are

- A. Benzyl alcohol and 2,4,6-tribromo-3-methoxy benzene
- B. Benzyl alcohol and 2,4,6-tribromo-3-methyl phenol
- C. o-cresol and 3,4,5-tribromo-2-methyl phenol
- D. m-cresol and 2,4,6-tribromo-3-methyl phenol.

**Answer: D**



**Watch Video Solution**

**284.** The products obtained when benzyl phenyl ether is heated with HI in the mole ratio 1 : 1 are

1. Phenol
2. Benzyl alcohol
3. Benzyl iodide
4. Iodobenzene

A. 1 and 3 only

B. 3 and 4 only

C. 1 and 4 only

D. 2 and 4 only

**Answer: A**



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**285.** Alcohols can be easily distinguished from phenol because

- A. phenols are soluble in NaOH but alcohols are not
- B. alcohol are soluble in NaOH but phenols are not
- C. phenols are soluble  $Na_2CO_3$  but alcohols are not
- D. phenols are soluble  $Na_2CO_3$  but alcohols are soluble in  $Na_2CO_3$

**Answer: A**



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**286.** Phenol give violet colour with aqueous neutral solution of ferric chloride due to the presence of

- A. phenolic -OH group
- B.  $-C(OH)=C<$  grouping
- C. aromatic ring
- D. double bonds

**Answer: A**



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**287.** Phenols can be distinguished from alcohols by

- A. Schiff's base
- B. Tollen's reagent
- C.  $FeCl_3$
- D. Lime water



**Answer: C**



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**288.** Which of the following gives characteristic deep colour with  $FeCl_3$  ?

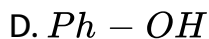
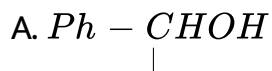
- A. Ethanol
- B. Resorcinol
- C. Phenol
- D. Both b and c

**Answer: D**



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289. Which of the following hydroxy compounds will give purple colouration with  $FeCl_3$ ?

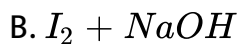
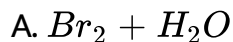


Answer: D



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290.  $C_2H_5OH$  and  $C_6H_5OH$  can be distinguished by



C.  $FeCl_3$

D. Both b and c

**Answer: D**



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**291.** Phenol is used as

A. antiseptic and disinfectant

B. in preparation of bakelite cement

C. in drugs, dyes

D. all of these

**Answer: D**



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**292.** Phenol is used

- A. in the preparation of phenolphthalein
- B. in the manufacture of alloys
- C. in the manufacture of perfumes
- D. as a refrigerant

**Answer: A**



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**293.** Phenol is bifunctional compound because

- A. It is acidic and contain -OH
- B. It reacts with Na to give phenoxide

C. It reacts with both Na and Zn to give phenoxide and benzene respectively

D. both a and c

**Answer: D**

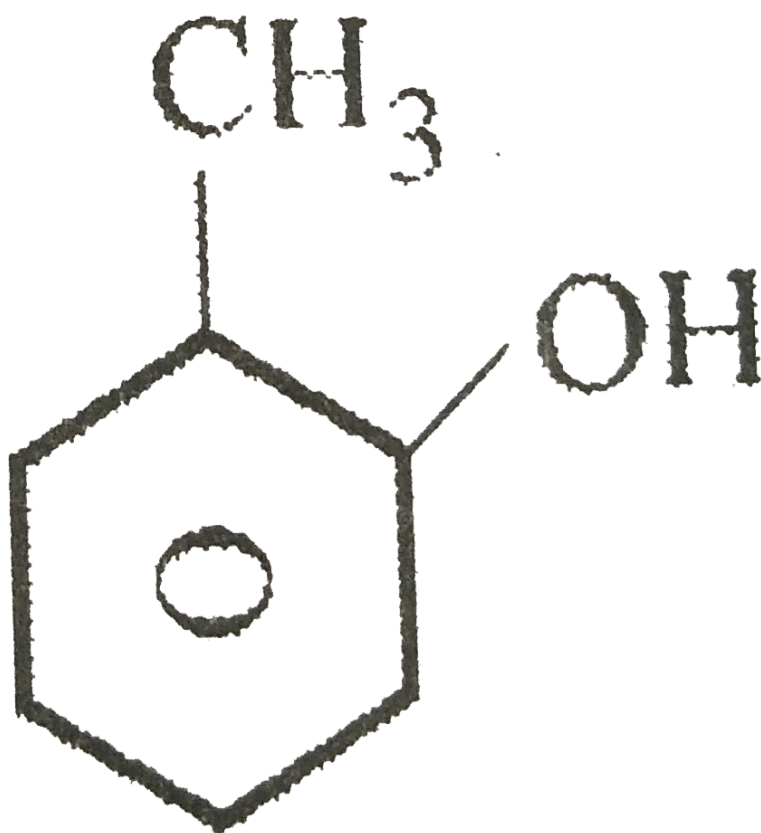


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294.

The

compound



is isomeric

with the following compound :

A. Benzene alcohol

B. Benzene

C. Cresol

D. Anisole

**Answer: D**



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**295.** The hybridized state of C-atom carrying the -OH group in phenol is

A.  $sp$

B.  $sp^3$

C.  $sp^2$

D.  $dsp^2$

**Answer: C**



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**296.** By which of the following process, phenol is obtained from chlorobenzene by passing steam in the presence of  $Ca_3(PO_4)_2$  ?

- A. Rasching process
- B. Dow's process
- C. Baeyer's Process
- D. Oxidation

**Answer: A**



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**297.** Sodium phenate ( Sodium phenoxide) is obtained , when the following compound is fused with caustic soda (NaOH):

- A. Benzene sulphonate



- B. Benzene sulphonic acid
- C. Na-benzene sulphonate
- D. Na - benzene sulphonic acid

**Answer: C**



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**298.** The drug paracetamol is prepared from

- A. ethyl alcohol
- B. Diethyl amine
- C. Phenol
- D. Chloroform

**Answer: C**





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**299.** When phenol is treated with excess of bromine water ,the product formed would be

- A. Violet precipitate
- B. Reddish precipitate
- C. Yellowish precipitate
- D. Colourless liquid

**Answer: C**



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**300.** Nitration of phenol to give picric acid is an example of

- A. Electrophilic substitution reaction

B. Nucleophilic substitution reaction

C. Addition of  $NO_2$  groups

D. Oxidation of phenol

**Answer: A**



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**301.** An unknown compound dissolves in sulphuric acid but does not decolourise bromine water and does not react with sodium . Which of the following classes of molecules would behave in this manner ?

A. Alkynes

B. Phenol

C. Ether

D. Alcohol

**Answer: C**



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**302.** The medium used to convert an alcohol into an alkyl chloride using thionyl chloride is

A. ammonia

B. ether

C. pyridine

D. water

**Answer: C**



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**303.** Wood alcohol is

- A. Glycerol
- B. Methanol
- C. Phenol
- D. Ethanol

**Answer: B**



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**304.** Alcohols have higher B.P. due to

- A. toxicity of alcohols
- B. isomeric nature of alcohols
- C. association by intermolecular H-bonds

D. association by intramolecular H-bonds

**Answer: C**



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**305.** Phenol with conc.  $H_2SO_4$  at room temperature gives

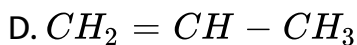
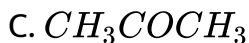
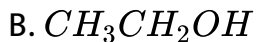
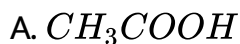
- A. phenol sulphonic acid
- B. m-phenol sulphonic acid
- C. p-phenol sulphuric acid
- D. 2-hydroxy benzene sulphonic acid

**Answer: D**



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**306.** In which of the following species, is the underlined carbon has  $sp^3$  -hybridisation ?



**Answer: B**



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**307.** An ether is more volatile than an alcohol having the same molecular formula. This is due to -

A. alcohols having resonance structures

B. inter-molecular hydrogen bonding in ethers

C. inter-molecular hydrogen bonding in alcohols

D. dipolar character of ethers

**Answer: C**



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**308.** During the dehydration of alcohols to alkenes by heating with conc.  $H_2SO_4$ , the initiating step is :

A. formation of carbocations

B. elimination of water

C. formation of an ester

D. protonation of alcohol molecule

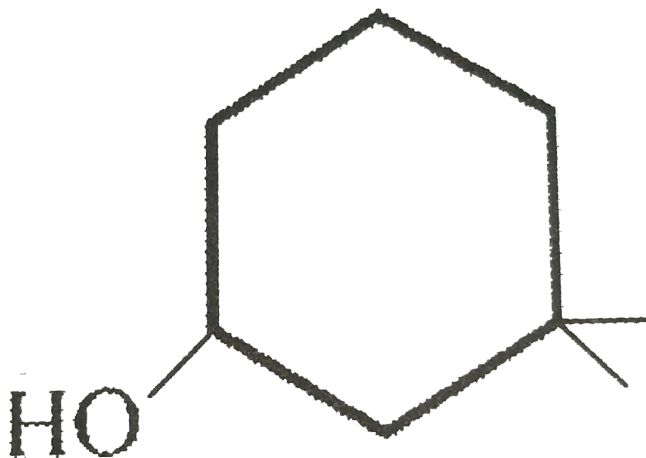
**Answer: D**



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309. The IUPAC name of the compound



- A. 3,3-dimethyl-1-hydroxy cyclohexane
- B. 1,1-dimethyl-3-cyclohexanol
- C. 3,3-dimethyl-1-cyclohexanol
- D. 1,1-dimethyl-3-hydroxy cyclohexane

**Answer: C**

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**310.** Acetyl bromide reacts with excess of  $CH_3MgI$  followed by treatment with a saturated solution of  $NH_4Cl$  gives:

- A. Acetone
- B. Acetyl iodide
- C. 2-methyl-2-propanol
- D. Acetamide

**Answer: C**

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**311.**  $HBr$  reacts with  $H_2C = CH - OCH_3$  under anhydrous conditions at room temperature to give:

A.  $CH_3CHO$  and  $CH_3Br$

B.  $BrCH_2CHO$  and  $CH_3OH$

C.  $BrCH_2 - CH_2 - OCH_3$

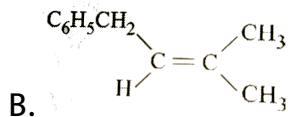
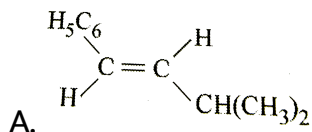
D.  $H_3C - CHBr - OCH_3$

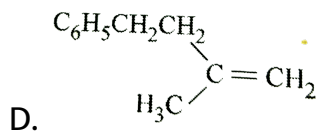
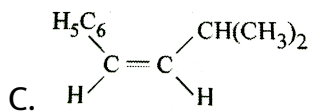
**Answer: D**



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**312.** The main product of the following reaction is



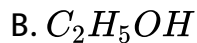


**Answer: A**



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**313.** Which of the following is soluble in water ?



**Answer: B**





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**314.** The compound which reacts fastest with Lucas reagent at room temperature is

A. butan-1-ol

B. butan-2-ol

C. 2-methylpropan-1-ol

D. 2-methylpropane-2-ol

**Answer: D**



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**315.** An industrial method for the preparation of methanol is

- A. catalyst reduction of carbon monoxide in presence of ZnO-  
 $Cr_2O_3$
- B. by reacting methane with steam at  $900^{\circ}C$  with a nickel catalyst
- C. by reducing formaldehyde with lithium aluminium hydride
- D. by reacting formaldehyde with aqueous sodium hydroxide solution

**Answer: A**



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**316.** Which of the following compounds is oxidised to prepare methyl ethyl ketone?

- A. 2-propanol

B. 1-butanol

C. 2-butanol

D. 1-butyl alcohol

**Answer: C**



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**317.** Phenol reacts with bromine in carbon disulphide at low temperature to give

A. m-bromophenol

B. o-and p-bromophenol

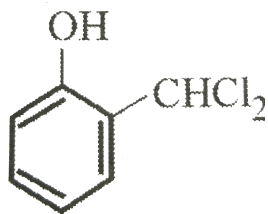
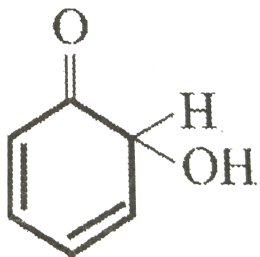
C. p-bromophenol

D. 2,4,6-tribromophenol

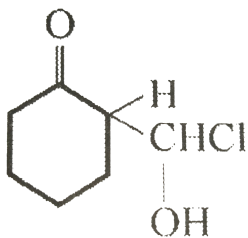
Answer: B

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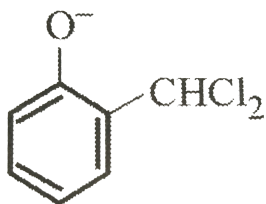
318. When phenol is treated with  $CHCl_3$  and NaOH, followed by acidification salicylaldehyde is obtained. Which of the following species are involved in the above mentioned reaction as intermediate?







C.

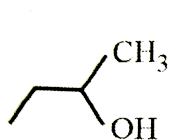


D.

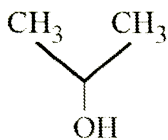
**Answer: D**

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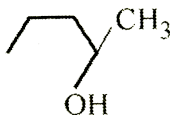
**319.** The order of reactivity of the following alcohols towards concentrated HCl is



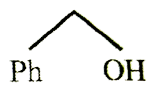
(I)



(II)

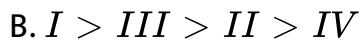


(III)



(IV)

A.  $I > II > III > IV$

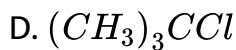
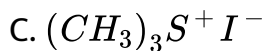
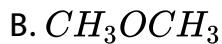
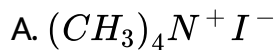


**Answer: A**



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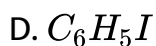
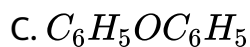
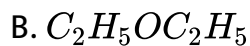
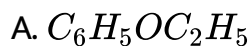
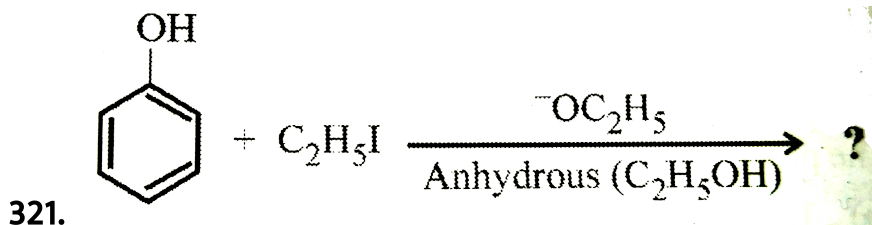
**320.** The compound that will react most readily with NaOH to form methanol is



Answer: A



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Answer: B



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**322.** The product of acid catalyzed hydration of 2 – phenylpropene is

- A. 3-phenyl -2-propanol
- B. 1-phenyl-2-propanol
- C. 2-phenyl-2-propanol
- D. 2-phenyl-1-propanol

**Answer: C**



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**323.** The best method to prepare cyclohexene from cyclohexanol is by using

- A. Conc.  $HCl + ZnCl_2$
- B. Conc.  $H_3PO_4$

C.  $\text{HBr}$

D.  $\text{HCl}$

**Answer: B**



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**324.** Molecular formula of amyl alcohol is

A.  $\text{C}_7\text{H}_{14}\text{O}$

B.  $\text{C}_6\text{H}_{13}\text{O}$

C.  $\text{C}_5\text{H}_{12}\text{O}$

D.  $\text{C}_5\text{H}_{10}\text{O}$

**Answer: C**



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325. Which of the following are known as mercaptans ?

- A. Thio-alcohols
- B. Thio-ethers
- C. Thio-acids
- D. Thio-aldehydes

**Answer: A**



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326. Propene,  $CH_3 - CH = CH_2$ , can be converted to 1-propanol by oxidation. Which set of reagents among the following is ideal to effect the conversion?

- A. Alkaline  $KMnO_4$

B.  $B_2H_6$  and alkaline  $H_2O_2$

C.  $O_3$  / Zn dust

D.  $OsO_4$  /  $CH_4$ ,  $Cl_2$

**Answer: B**



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**327.** Acetic acid and  $CH_3OH$  are obtained on large scale by destructive distillation of

A. Wood

B. coal

C. Turpentine

D. Crude oil

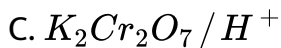
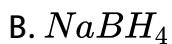
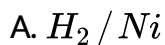
**Answer: A**



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In the above sequence (X) can be:



D. Both a and b

**Answer: B**



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329. Commercially methanol is prepared by

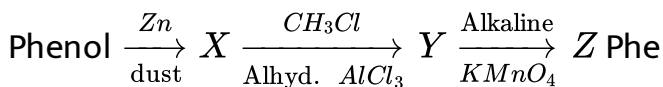
- A. Reduction of CO in presence of  $ZnO \cdot Cr_2O_3$
- B. Methane reacts with water vapours at  $900^\circ C$  in presence of Ni catalyst
- C. Reduction of HCHO by  $LiAlH_4$
- D. Reduction of HCHO by aqueous NaOH

Answer: A



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330. What is Z in the following sequence of reactions?



- A. Toluene

B. Benzaldehyde

C. Benzoic acid

D. Benzene

**Answer: C**



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**331.** On heating glycerol with conc.  $H_2SO_4$  a compound is obtained which has a bad odour. The compound is :

A. Glycerol sulphate

B. Acrolein

C. Formic acid

D. Allyl alcohol

**Answer: B**



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**332.** The reagent which easily reacts with ethanol and propanol is

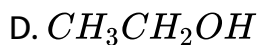
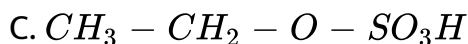
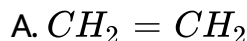
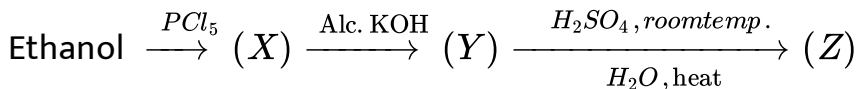
- A. Fehling solution
- B. Grignard reagent
- C. Schiff's reagent
- D. Tollen's reagent

**Answer: B**



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**333.** Identify (Z) in the following reaction series :

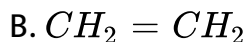
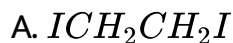


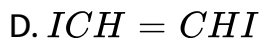
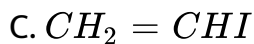
**Answer: D**



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**334.** The reaction of ethylene glycol with  $PI_3$  gives :





**Answer: B**

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**335.** During the dehydration of alcohols to alkenes by heating with conc.  $H_2SO_4$ , the initiating step is :

A. Protonation of alcohol molecule

B. Formation of carbocation

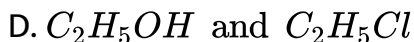
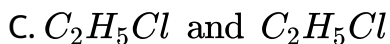
C. Elimination of water

D. Formation of an ester

**Answer: A**

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**336.** Compound A reacts with  $\text{PCl}_5$  to give B which on treatment with KCN followed by hydrolysis gave propionic acid. What is A and B respectively?



**Answer: D**



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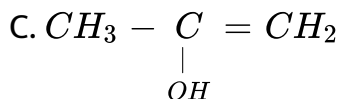
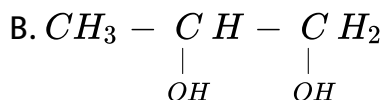
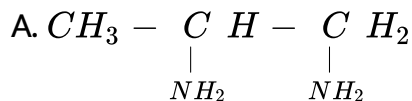
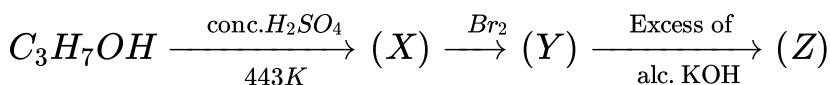
**337.** The increasing order of acidity among phenol , p-methylphenol , m-nitrophenol and p-nitrophenol is

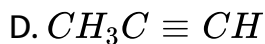
- A. m-nitrophenol , p-nitrophenol, phenol , p-methylphenol
- B. p-methylphenol , m-nitrophenol, phenol , p-nitrophenol
- C. p-methylphenol, phenol , m-nitrophenol, p-nitrophenol
- D. phenol , p-methylphenol, p-nitrophenol , m-nitrophenol

**Answer: C**

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**338.** Identify (Z) in the series.





**Answer: D**



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**339.** Primary and secondary alcohols on action of reduced copper give

- A. Aldehydes and ketones respectively
- B. Ketones and aldehydes respectively
- C. Only aldehydes
- D. Only ketones

**Answer: A**



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**340.** Which of the following has lowest boiling point ?

- A. p-nitrophenol
- B. m-nitrophenol
- C. o-nitrophenol
- D. phenol

**Answer: C**



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**341.** An organic compound (X) with molecular formula  $C_7H_8O$  is insoluble in aqueous  $NaHCO_3$  but dissolves in  $NaOH$ . When treated with bromine water (X) rapidly gives (Y),  $C_7H_5OBr_3$ . The compound (X) and (Y) respectively are

- A. Benzyl alcohol and 2,4,6-tribromo-3-methyl phenol
- B. o-cresol and 3,4,5-tribromo-2-methyl phenol
- C. methoxy benzene and 2,4,6-tribromo-3-methoxy benzene
- D. m-cresol and 2,4,6-tribromo-3-methyl phenol

**Answer: D**



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**342.** When glycerol is heated with  $KHSO_4$  it gives

- A.  $CH_2 = CH - CH_3$
- B.  $CH_2 = CH - CH_2OH$
- C.  $CH_2 = CH - CHO$
- D.  $CH_2 = C = CH_2$

**Answer: C**



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**343.** The compound obtained by heating salicylic acid with phenol in the presence of phosphorus oxychloride is

- A. Salol
- B. Aspirin
- C. Oil of wintergreen
- D. o-chlorobenzoyl chloride

**Answer: A**



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**344.** What amount of bromine will be required to convert 2g of phenol into 2, 4, 6 – tribromophenol

- A. 4.00
- B. 6.00
- C. 10.22
- D. 20.44

**Answer: C**



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**345.** Phenol reacts with  $CCl_4$  in presence of aqueous alkali and forms a product which on hydrolysis gives

- A. Salicylaldehyde

B. Salicylic acid

C. Benzaldehyde

D. Benzoic acid

**Answer: B**



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**346.** A compound 'A' on oxidation gave acetaldehyde , then again on oxidation gave acid . After first oxidation it was reacted with ammoniacal  $AgNO_3$  then silver mirror was produced. A is likely to be

A. Primary alcohol

B. tertiary alcohol

C. acetaldehyde

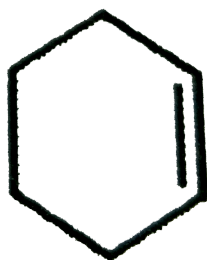
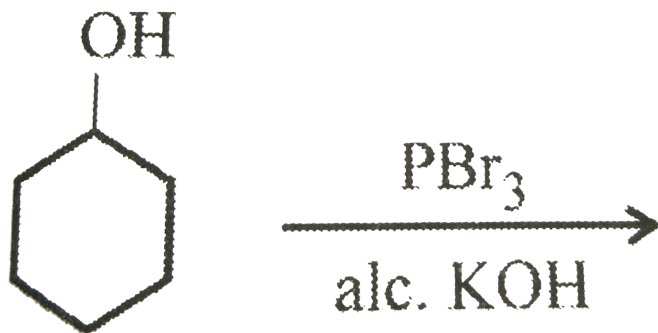
D. Acetone

Answer: A

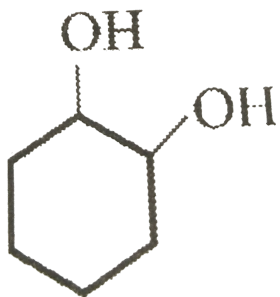


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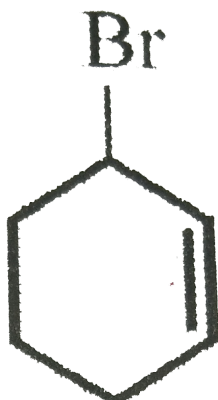
347. Predict the product :



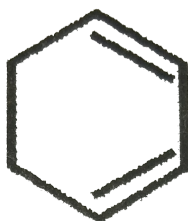
A.



B.



C.



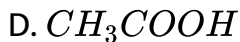
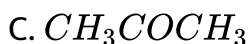
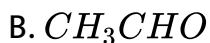
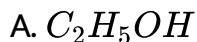
D.

**Answer: A**



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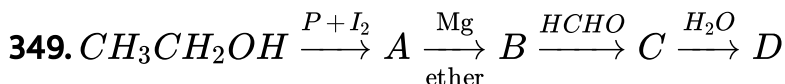
**348.** An organic compound 'X' on treatment with pyridinium chlorochromate in dichloromethane gives compound 'Y'. Compound 'Y', reacts with  $I_2$  and alkali to form tri-iodomethane. The compound 'X' is :



**Answer: A**



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The product 'D' is-



- A. Butanal
- B. n-butyl alcohol
- C. n-propyl alcohol
- D. Propanal

**Answer: C**



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**350.** The compound which will give negative iodoform test is

- A.  $CH_3CHO$
- B.  $CH_3CH_2OH$
- C. isopropyl alcohol
- D. Benzyl alcohol

**Answer: D**



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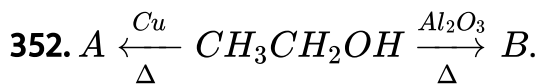
**351.** The function of  $ZnCl_2$  in Lucas test for alcohols is

- A. to act as acid catalyst and react with HCl to form  $H_2ZnCl_4$
- B. to act as base catalyst and react with NaOH to form  $Na_2Zn(OH)_4$
- C. to act as amphoteric catalyst
- D. to act as neutral catalyst

**Answer: A**



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A and B respectively are :

A. Alkene, alkanal

B. Alkyne, alkanal

C. Alkanal, alkene

D. Alkanal, alkyne

**Answer: C**



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353. When benzene sulphonic acid and P-nitrophenol are treated with  $NaHCO_3$ , the gases released, respectively, are :

A.  $SO_2$ ,  $NO_2$

B.  $SO_3$ ,  $NO$

C.  $SO_2$ ,  $CO_2$

D.  $CO_2$ ,  $CO_2$

**Answer: D**



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**354.** Phenol is heated with a solution of mixture of  $KBr$  and  $KBrO_3$ . The major product obtained in the above reaction is

A. 2-Bromophenol

B. 3-Bromophenol

C. 4-Bromophenol

D. 2,4,6-tribromophenol

**Answer: D**



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**355.** Ortho -nitrophenol is less soluble in water than *p*- and *m*-nitrophenols because

- A. o-nitrophenol is more volatile steam than those of m- and p-isomers
- B. o-nitrophenol shows intramolecular H-bonding
- C. o-nitrophenol shows intermolecular H-bonding
- D. Melting point of o-nitrophenol is lower than those of m- and p-isomers

**Answer: B**



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**356.** In cold countries, ethylene glycol is added to water in the radiators of cars during winters. It results in:

- A. bring down the specific heat of water
- B. Lower the viscosity
- C. Reduce the viscosity
- D. make water a better lubricant

**Answer: A**

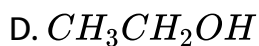
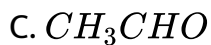
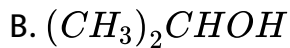
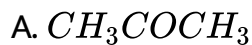


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**357.** An organic compound 'X' is oxidised by using acidified  $K_2Cr_2O_7$ . The product obtained reacts with phenyl hydrazine but

does not answer silver mirror test. The possible structure of 'X' is

:



**Answer: B**



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**358.** Ethylene reacts with Baeyer's reagent to given

A. Ethane

B. Ethyl alcohol

C. Ethylene glycol

D. None of these

**Answer: C**



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**359.** When alcohol reacts with conc.  $H_2SO_4$ , intermediate compound formed is :

A. Carbonium ion

B. Alkoxy ion

C. Alkyl hydrogen sulphate

D. None of these

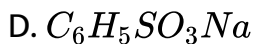
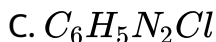
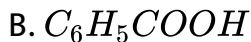
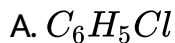
**Answer: A**



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**360.** Which of the following does not form phenol or phenoxide ion ?



**Answer: B**



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**361.** Phenol is less acidic than

A. acetic acid

B. p-methoxyphenol

C. p-nitrophenol

D. Both a and c

**Answer: D**



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**362.** Phenol can be prepared by

A. Cannizzaro's method

B. Carbyl amine method

C. Dow's method

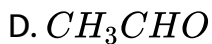
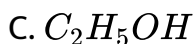
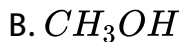
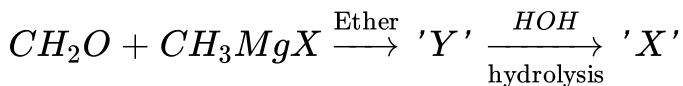
D. Oxidation of benzene

**Answer: C**



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363. Identify 'X' in the following reaction :



Answer: C



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364. The number of  $\pi$ -electrons present in a phenol molecule is

A. 2

B. 4

C. 6

D. 8

**Answer: C**



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**365.** The order of reactivity of alcohols with halogen acids is as follows :

A. pri. > sec. > tert.

B. sec. > tert. > pri.

C. tert. > pri. > sec.

D. tert. > sec. > pri.

**Answer: D**



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366.  $P + PCl_5 \rightarrow Q \xrightarrow[\text{(Ether)}]{\text{Na-metal}}$  n-butane. P and Q are :

A.  $C_2H_5OH$  and  $C_2H_5Cl$

B.  $C_2H_5Br$  and  $CH_3OH$

C.  $C_2H_5Cl$  and  $C_2H_5OH$

D.  $CH_3OH$  and  $C_2H_5Br$

Answer: A

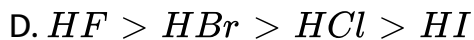
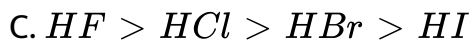


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367. Towards alcohols the reactivity of halogens acid is

A.  $HF > HI > HBr > HCl$

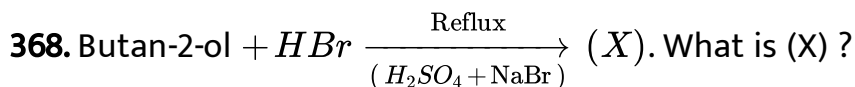
B.  $HI > HBr > HCl > HF$



**Answer: B**



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A. bromobutane

B. 1-bromo butane

C. but-2-ene

D. 2-bromo butane

**Answer: D**



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**369.** Na-metal reacts very fast with

- A. alcohols
- B. amine
- C. Aldehyde
- D. alkanes

**Answer: A**



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**370.** Ethanol reacts with  $SOCl_2$  in pyridine to form

- A. ethyl chloride
- B. acetyl chloride
- C. chloroform

D. ethanoyl chloride

**Answer: A**



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**371.** Phenol on heating with nitrating mixture forms

A. o-nitrophenol

B. m-nitrophenol

C. p-nitrophenol

D. picric acid

**Answer: D**



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**372.** Conversion of propene to propanol is called

- A. hydrolysis
- B. hydrogenation
- C. hydration
- D. dehydrogenation

**Answer: C**



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**373.** Dimethyl ether and ethyl alcohol are

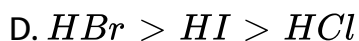
- A. homologues
- B. functional isomers
- C. position isomers
- D. metamers

**Answer: B**



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**374.** The order of reactivity of HX towards alcohol is



**Answer: B**



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**375.** For which of the following parameters the structural isomers  $C_2H_5OH$  and  $CH_3OCH_3$  would be expected to have the same values ?

- A. heat of vapourisation
- B. boiling point
- C. gaseous densities at the same temperature and pressure
- D. vapour pressure at the same temperature

**Answer: C**



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**376.** Monohydric alcohol and ether are

- A. position isomers

- B. metamers
- C. optical isomers
- D. functional isomers

**Answer: D**



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**377.** Phenol on nitration with nitrating mixture gives

- A. ortho nitrophenol
- B. meta nitrophenol
- C. mixture of ortho and para nitrophenol
- D. 2,4,6-trinitrophenol

**Answer: D**

**378.** When ethyl alcohol is heated to  $140^{\circ}\text{C}$  with conc.  $\text{H}_2\text{SO}_4$ , the product formed is :

- A. ethane
- B. ethyl sulphate
- C. diethyl ether
- D. ethanol sulphate

**Answer: C**

**379.** Ethylene dichloride on treatment with aqueous KOH gives

- A. acetaldehyde

B. isopropyl alcohol

C. acetone

D. ethylene glycol

**Answer: D**



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**380.** Alcohols react with sodium metal with the evolution of

A.  $H_2$  (gas )

B.  $CO_2$ (gas )

C.  $O_2$ (gas )

D.  $NH_3$ (gas )

**Answer: A**



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**381.** Boiling point of alcohol is comparatively higher than that of corresponding alkane due to

- A. inter molecular hydrogen bonding
- B. intra molecular hydrogen bonding
- C. volatile nature
- D. hydrogen bonding

**Answer: A**



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**382.** What is formed when hydrogen atom of -OH group in phenol is replaced by  $-COCH_3$  group of acetyl chloride ?

A. methoxy benzene

B. chloro benzene

C. diethyl ether

D. phenyl acetate

**Answer: D**



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**383.** IUPAC name of  $(CH_3)_2CHCHOH - CH_3$  is

A. 2-methylbutan-3-ol

B. 2-methylbutan-2-ol

C. 3-methylbutan-2-ol

D. 3-methylbutan-3-ol



**Answer: C**



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**384.** Phenol has

- A. high M.P. and high B.P.
- B. high M.P. and low B.P.
- C. low M.P. and low B.P.
- D. high B.P. and low M.P.

**Answer: C**



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**385.**  $C_4H_{10}O$  represents

- A. aldehydes
- B. ketones
- C. alkanes
- D. Alcohols are polar

**Answer: D**



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**386.** In the preparation of phenol from cumene, the by-product obtained is

- A. NaCl
- B.  $Na_2SO_3$
- C. Sodium carbonate
- D. Propanone

**Answer: D**



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**387.** A compound X with molecular formula  $C_3H_8O$  can be oxidised to a compound Y with the molecular formula  $C_3H_6O_2$ , X is most likely to be -

- A. Primary alcohol
- B. secondary alcohol
- C. Aldehyde
- D. ketone

**Answer: A**



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**388.** Ethyl alcohol vapours when passed over alumina at 573K, the product obtained is

- A. ethylene
- B. ethanal
- C. methyl ethyl ether
- D. diethyl ether

**Answer: A**



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**389.** If glycerol is heated with oxalic acid at a certain temperature , it gives an acid. The acid is

- A. Formic acid
- B. Acetic acid

C. Pripionic acid

D. Benzoic acid

**Answer: A**



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**390.** Phenol is

A. aliphatic acid

B. Carbolic acid

C. carboxylic acid

D. aromatic carboxylic acid

**Answer: D**



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**391.** Picric acid is obtained from

A. Phenol + conc.  $HNO_2$

B. Phenol + conc.  $HNO_3$

C. Phenol + dil.  $HNO_3$

D. Phenol + conc.  $H_2SO_4$

**Answer: B**



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**392.** 2-methyl propan-1-ol is obtained from

A. Phenol + conc.  $H_2SO_4$

B. Phenol + conc.  $HNO_3$

C. ethanal +  $(CH_3) + 2CHMgX$

D. methanal +  $(CH_3)_2CHMgX$

**Answer: D**



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**393.** Which of the following is formed when ethyl amine reacts with nitrous acid ?

A.  $C_6H_5CH_2OH$

B.  $C_6H_5OH$

C.  $C_2H_5OH$

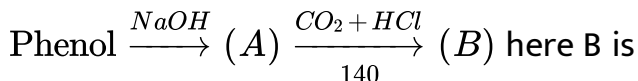
D.  $C_6H_4CH_3OH$

**Answer: C**



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**394.** In the reaction



- A. salicylic acid
- B. Salicyldehyde
- C. Benzoic acid
- D. Chlorobenzene

**Answer: A**

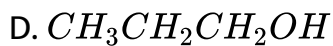
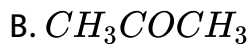


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**395.** Which one of the following on oxidation will not give a carboxylic acid with the same number of carbon atoms ?

- A.  $\text{CH}_3\text{OH}$





**Answer: B**



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**396.** The reaction of methyl bromide with aq KOH to form methyl alcohol is an example of

- A. electrophilic addition
- B. electrophilic substitution
- C. nucleophilic addition
- D. nucleophilic substitution

**Answer: D**



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**397.** Alkene is prepared from alcohol by

- A. Oxidation
- B. Reduction
- C. Hydration
- D. Dehydration

**Answer: D**



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**398.** Dehydration order of alcohol is

A.  $1^\circ > 2^\circ > 3^\circ$

B.  $2^\circ > 3^\circ > 1^\circ$

C.  $3^\circ > 2^\circ > 1^\circ$

D.  $1^\circ > 3^\circ > 2^\circ$

**Answer: C**



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**399.** Phenolic -OH gives which test ?

A. Fehling solution test

B. Tollen's reagent test

C. Millons test

D. None of these

**Answer: C**



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**400.** Phenol reacts with bromine water in the ratio of \_\_\_\_\_ to give 2,4,6-Tribromo phenol.

A. 1 : 1

B. 1 : 2

C. 1 : 3

D. 2 : 1

**Answer: C**



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**401.** Which alcohol of molecular formula  $C_4H_9OH$  cannot be obtained by the reduction of carbonyl compound?

- A. Butan-2-ol
- B. Butan-1-ol
- C. 2-Methyl propan-2-ol
- D. 2-Methylpropan-1-ol

**Answer: C**



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**402.** Which is a optically active compound ?

- A. Butan-2-ol
- B. Isopropyl chloride

C. Neopentyl alcohol

D. Tertiary butyl alcohol

**Answer: A**



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**403.** Excess of ethyl alcohol  $\xrightarrow[H^+]{413K}$  A, A is :

A. Ethylene

B. Ethyl hydrogen sulphate

C. diethyl ether

D. Alkene

**Answer: C**



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**404.** In Dow's process, the starting raw material is

- A. Nitrobenzene
- B. Benzene sulphonic acid
- C. Aniline
- D. Chlorobenzene

**Answer: D**



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**405.** The raw material for Raschig process is

- A. Phenol
- B. Aniline
- C. Cumene

D. Chlorobenzene

**Answer: D**



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**406.** 1 mol alcohol reacts with Na to give what weight of hydrogen ?

A. 0.5 g

B. 1 g

C. 1.5 g

D. 2 g

**Answer: B**



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407.  $\alpha$ -hydroxy propanoic acid has ..... , asymmetric carbon atoms .

A. 0

B. 1

C. 2

D. 3

**Answer: B**



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408. Which among the following is a tertiary alcohol \_\_\_\_\_ ?

A. Iso-butyl alcohol

B. Neo-pentyl alcohol

C. 2,3-Dimethylpentan-2-ol

D. 3,4-Dimethylpentan-2-ol

**Answer: C**



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409.  $CH_3 - CH = CH_2 \xrightarrow{\text{cold } H_2SO_4} A \xrightarrow[H_2O]{\Delta} B \xrightarrow{K_2Cr_2O_7} C$  Identify C.

A. Iso-propyl alcohol

B. Propanone

C. Propene

D. Propanoic acid

**Answer: B**



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**410.** Which will give immediate turbidity on shaking with HCl at room temperature ?

- A. n-propyl alcohol
- B. iso-propyl alcohol
- C. 2-methylpropan-2-ol
- D. sec-butyl alcohol

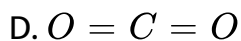
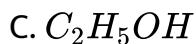
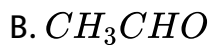
**Answer: C**



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**411.** To prepare propan-2-ol from methyl magnesium bromide , the other reagent required is \_\_\_\_\_

- A. HCHO



**Answer: B**



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**412.** Phenol reacts with bromine in  $\text{H}_2\text{O}$  at high temperature to give

A. m-bromophenol

B. o and p-bromophenol

C. p-bromophenol

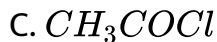
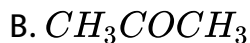
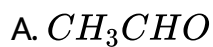
D. 2,4,6-tribromophenol

**Answer: D**



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**413.** When primary alcohol is oxidised with  $Cl_2$ , it gives



**Answer: A**



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**414.** Which alcohol with the formula  $C_4H_{10}O$  cannot be prepared by the reduction of aldehyde or ketone ?

- A. n-butyl alcohol
- B. sec-butyl alcohol
- C. tert-butyl alcohol
- D. All of these

**Answer: C**



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**415.** Methanol can be distinguished from ethanol by :

- A. Fehling solution
- B. Schiff's reagent

C.  $\text{NaOH} + \text{I}_2$

D. Lucas Reagent

**Answer: C**



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**416.** An organic compound , in which the hydroxyl group is not directly attached to an aromatic ring (benzene) is called

A. Phenol

B. Aromatic alcohol

C. Aromatic ethanol

D. Aromatic ethanal

**Answer: B**



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**417.** Which of the following alcohols on dehydration with conc.  $H_2SO_4$  will yield But-2-ene ?

- A. 2-methyl-2-butanol
- B. 2-propanol
- C. 2-methyl-2-propanol
- D. sec-butyl alcohol

**Answer: D**



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**418.** Which among the following phenolic compounds is most acidic in nature?



A. p-aminophenol

B. Phenol

C. m-nitrophenol

D. p-nitrophenol

**Answer: D**



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**419.** Name the catalyst used in commercial method of preparation of phenol.

A. Silica

B. Calcium phosphate

C. Anhydrous aluminium chloride

D. Cobalt naphthenate

**Answer: D**



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**420.** Which of the following is Baeyer's reagent ?

A. Alkaline  $KMnO_4$

B. Acidic  $K_2Cr_2O_7$

C. Alkaline  $Na_2Cr_2O_7$

D.  $MnO_2$

**Answer: A**



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**421.** ( + 2) 2-methylbutan -1-ol(-)2-methylbutan -1-ol have different values for which

- A. Boiling point
- B. Relative density
- C. Refractive index
- D. Specific rotation

**Answer: D**



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**422.** What is the quantity of hydrogen gas liberated when 46g sodium reacts with excess ethanol ?

(Given atomic mass of  $Na = 23$ )

A.  $2.4 \times 10^{-3} kg$

B.  $2.0 \times 10^{-3} kg$

C.  $4.0 \times 10^{-3} kg$

D.  $2.4 \times 10^{-2} kg$

**Answer: B**



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**423.** Which of the following compounds has lowest boiling point ?

A. n-butyl alcohol

B. Isobutyl alcohol

C. tert-butyl alcohol

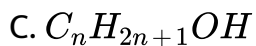
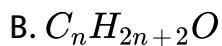
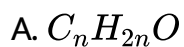
D. sec-butyl alcohol

**Answer: C**



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**424.** The molecular formula of ethers is



**Answer: B**



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**425.** Ether are

- A. alkyl derivatives or anhydride of alcohols
- B. compound derived from water by replacing both the hydrogen atoms of water by alkyl group
- C. alkoxy alkane
- D. all the above

**Answer: D**



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**426.** Ether are inert towards

- A. inorganic reagents
- B. Na metal
- C. dilute bases
- D. all of these

**Answer: D**



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**427.** An example of a compound with the functional group  $-O-$  is

- A. acetic acid
- B. methyl alcohol
- C. diethyl ether
- D. acetone

**Answer: C**



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428. Ethoxyethane does not react with

A. HI

B. conc.  $H_2SO_4$

C.  $PCl_5$

D.  $Na$

Answer: D



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429. Alcohol is :

A.  $C_2H_5OCH_3$

B.  $-OCH_3$

C.  $-OC_2H_5$



D.  $-O-H$

**Answer: D**



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**430.** Oxygen atom in ether is

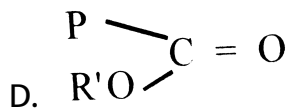
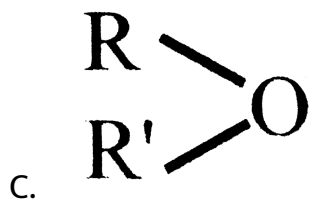
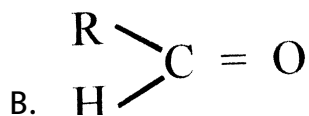
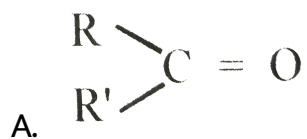
- A. active
- B. very active
- C. replaceable
- D. quite inert

**Answer: D**



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431. Ether is represented as



Answer: C



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432. Hybrid state of central oxygen atom in ether is



B.  $sp^3$

C.  $sp$

D.  $sp^3d$

**Answer: B**



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**433.** Which of the following statement is not true of ethoxyethane ?

A. it is a colourless liquid

B. it is a volatile liquid

C. it is freely soluble in water

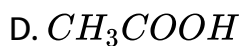
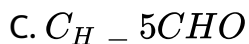
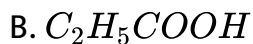
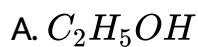
D. it is lighter than water

**Answer: C**



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**434.** Diethyl ether is anhydride of



**Answer: A**



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**435.** Hybrid state of central oxygen atom in ether is

A.  $sp^2$

B.  $sp^3$

C.  $sp$

D.  $sp^3d^2$

**Answer: B**



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**436.** In ethers, the  $C - O - C$  bond angle is

A.  $110^\circ$

B.  $105^\circ$

C.  $120^\circ$

D.  $107^\circ$

**Answer: A**



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**437.** Oxygen atom in ether is

- A. Very active
- B. Replaceable
- C. Comparatively inert
- D. Active

**Answer: C**



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**438.** Which of the following is not true about diethyl ether ?

- A. It is inflammable
- B. It is soluble in water
- C. It is soluble in dil.  $H_2SO_4$
- D. It is volatile

**Answer: B**



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**439.** Corresponding to alkanes ethers are their

- A. Alkyl derivative
- B. Dialkyl derivative
- C. Alkoxy derivative
- D. Trialkyl derivative

**Answer: C**



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**440.** The following statement is not correct regarding ethers :

- A. Ethers are acidic in nature
- B. Ethers are anhydrides of alcohols
- C. Ethers are alkyl derivatives of water
- D. Ethers are alkoxy derivatives of alkanes

**Answer: A**



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**441.** A mixed and aromatic ether is



A. Methoxy butane

B. Anisole

C. p-nitrophenol

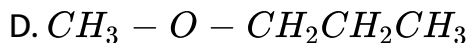
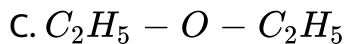
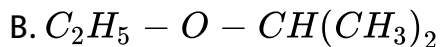
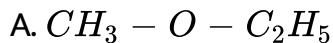
D. Ethoxy phenol

**Answer: B**



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**442.** Which of the following is simple ether ?



**Answer: C**



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**443.** The classification of ethers is carried out on the basis of

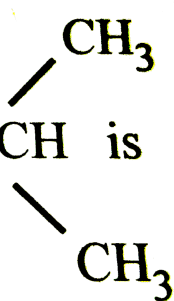
- A. their reactivity
- B. their solubility
- C. their alkyl groups attached to oxygen
- D. their inertness

**Answer: C**



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IUPAC name of  $\text{H}_3\text{C} - \text{O} - \text{CH}$  is



The diagram shows a central carbon atom bonded to a hydrogen atom (implied), a methoxy group ( $\text{H}_3\text{C}-\text{O}-$ ), and two methyl groups ( $\text{CH}_3$ ). The methyl groups are attached to the central carbon via diagonal bonds, one pointing up and to the right, and the other pointing down and to the right.

444.

- A. 2-Methoxy propane
- B. Methyl isopropyl ether
- C. Methoxy propane
- D. Both a and c

Answer: A



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445. The IUPAC name of  $\text{HOCH}_2\text{CH}_2\text{OC}_2\text{H}_5$  is :

A. Hydroxy diethyl ether

B. 2-Ethoxy ethanol

C. Ethoxy ethane-2-ol

D. 2-Ethoxy propanol

**Answer: B**



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**446.** The IUPAC name of  $C_2H_5OC_3H_7$  is

A. Ethoxy propane

B. Ethoxyethane

C. Propoxyethane

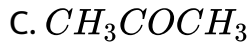
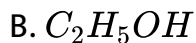
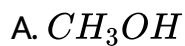
D. Methoxy propane

**Answer: A**



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**447.** The compound which is isomeric with dimethyl ether is



**Answer: B**



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**448.**  $C_2H_5OH$  and  $CH_3OCH_3$  are

- A. position isomers
- B. functional isomers
- C. metamers
- D. chain isomers

**Answer: B**



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**449.** Dimethyl ether is an isomer of

- A. Ethanol
- B. Acetone
- C. Propanal
- D. Ethanal

**Answer: A**



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**450.** The compound which is not isomeric with diethyl ether is :

A. Methyl n-propyl ether

B. Butanone

C. Butan-1-ol

D. 2-methyl-2-propanol

**Answer: B**



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**451.** The IUPAC name of  $(CH_3)_3C - OCH_3$  is

A. 2-Methyl-2-methoxy propane

B. 2-Methoxy-2-methyl propane

C. Methyl t-butyl ether

D. t-butyl methyl ether

**Answer: B**



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**452.** Which of the following are isomers of  $C_4H_{10}O$  ?

A. diethyl ether

B. n-butyl alcohol

C. Methyl isopropyl ether

D. All of these



**Answer: D**



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**453.** From the formula.  $C_4H_9OH$ , the number of isomers of ethers obtained are as follows :

A. 4

B. 2

C. 3

D. 1

**Answer: C**



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**454.** Which of the following is a metamer of Methyl isopropyl ether ?

- A. Butan-2-ol
- B. 2-methyl butan-1-ol
- C. diethyl ether
- D. butan-1-ol

**Answer: C**



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**455.** The IUPAC name of tertiary butyl ethyl ether is

- A. 2-Ethyl propane
- B. 2-Ethoxy-2-methyl propane

C. Ethoxy-2-methyl propane

D. 2-Methoxy-2-methyl propane

**Answer: B**



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**456.** The number of isomers obtained from the formula  $C_3H_8O$  is

A. 1

B. 2

C. 3

D. 4

**Answer: C**



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457. When methyl iodide is heated with sodium methoxide , it forms.

- A. diethyl ether
- B. methylalcohol
- C. dimethyl ether
- D. methyl ethyl ether

**Answer: C**



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458. By the action of  $CH_3I$  on sodium ethoxide we get :

- A.  $CH_3COOCH_3$
- B.  $CH_3COC_2H_5$

C.  $CH_3OC_2H_5$

D. Ethyl acetate

**Answer: C**



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**459.** Which of the following statement is correct ?

A.  $C_2H_5Br$  reacts with alc. KOH to form  $C_2H_5OH$

B.  $C_2H_5Br$  when treated with metallic sodium give ethane

C.  $C_2H_5Br$  when treated with sodium ethoxide form diethyl ether

D.  $C_2H_5Br$  with  $AgCN$  forms forms ethyl cyanide

**Answer: C**



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**460.** Which of the following method is used for the preparation of ethers?

- A. Kolbe's synthesis
- B. Wurtz synthesis
- C. Hofmann's synthesis
- D. Williamson 's reaction

**Answer: D**



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**461.** Dehydration of methanol with conc.  $H_2SO_4$  at  $140^\circ C$  gives

- A. dimethyl ether

B. ethane

C. methanol

D. methyl hydrogen sulphate

**Answer: A**



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**462.** In the reaction :



A.  $CH_3NH_2$

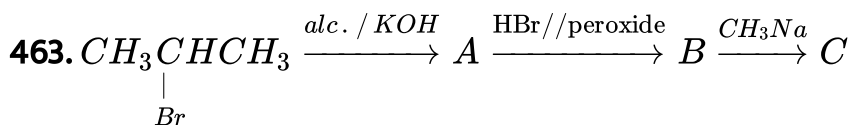
B.  $(CH_3)_2NH$

C.  $CH_2N_2$

D.  $CH_3OH$

Answer: C

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In the above reaction sequence, the final product is:

- A. diethyl ether
- B. 1-methoxypropane
- C. Isopropyl alcohol
- D. propylene glycol

Answer: B

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**464.** Ether reacts with dil.  $HCl$  or  $H_2SO_4$  under pressure to give

- A. nitroso
- B. oxonium salt
- C. alcohol
- D. hydrazone salt

**Answer: C**



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**465.** Compound A can be converted into B. Further compound A combines with sodium metal but not B. What are A and B ?

- A.  $CH_3 - O - CH_3$  and  $C_2H_5 - OH$
- B.  $C_2H_5 - OH$  and  $C_2H_5 - O - C_2H_5$

C.  $CH_3 - I$  and  $CH_3 - O - CH_3$

D. Both b and c

**Answer: D**



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**466.** Which of the following method is used to prepare ethers ?

A.  $R - ONa + R - X \rightarrow$

B.  $R - OH + CH_2N_2 \rightarrow$

C.  $R - OH + H_2SO_4$  conc.  $\rightarrow$

D. All of these

**Answer: D**



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**467.** Williamson's synthesis is useful for preparing

- A. simple ether
- B. mixed ether
- C. symmetrical and asymmetrical ether
- D. alkanes

**Answer: C**



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**468.** Propyl alcohol with diazomethane forms ( in presence of  $HBF_4$  )

- A. dimethyl ether
- B. Dipropyl ether

C. Methyl propyl ether

D. Ethyl propyl ether

**Answer: C**



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**469.** Diazomethane with alcohol in presence of catalyst forms

A. Ethers

B. simple ethers

C. Mixed ethers

D. Methyl ethers

**Answer: D**



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**470.** The preparation of ethers by diazomethane method is known as

- A. etherification
- B. De-etherification
- C. Methylation of alcohol
- D. Methylation

**Answer: C**



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**471.** In the preparation of ethers, separation is not needed, when the following method is used ?

- A. Diazomethane method

B. Williamson's synthesis

C. Continuous etherification process

D. Both b and c

**Answer: A**



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**472.** Consider the following alkyl halides :

(1)  $(CH_3)_3CBr$ . (2)  $CH_3Br$

(3)  $C_2H_5Br$  (4)  $CH_3CHBrCH_3$

Arrange these alkyl halides in decreasing order of reactivity in Williamson reaction :

A.  $1 > 4 > 3 > 2$

B.  $1 > 2 > 3 > 4$

C.  $4 > 3 > 2 > 1$

D.  $2 > 3 > 4 > 1$

**Answer: D**



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**473.** Diethyl ether medium is used in carrying out Wurtz Reaction because ether is

A. highly volatile

B. insoluble in water

C. chemically inert

D. immiscible with water

**Answer: C**



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**474.** Ethers are quite stable towards

- A. oxidizing agents
- B. Reducing agent
- C. bases
- D. all of these

**Answer: D**



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**475.** Ethyl methyl ether is

- A. Solid
- B. Gas



C. Liquid

D. Colloid

**Answer: B**



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**476.** Ethers have

A. Pungent odour

B. Pleasant odour

C. Fishy odour

D. Vinegar odour

**Answer: B**



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**477.** Ethers are

- A. Lighter than water
- B. Heavier than water
- C. Soluble in water
- D. Polar solvent

**Answer: A**



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**478.** The boiling point of dimethyl ether is

- A. More than the room temperature
- B. Less than the room temperature
- C. Equal to room temperature

D. Less than  $0^{\circ}C$

**Answer: B ,D**



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**479.** Because of the following property, ethers are used as an inert ( reaction ) medium

A. Neutral and good solvent

B. Neutral and bad solvent

C. Acidic and good solvent

D. Basic and good solvent

**Answer: A**



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**480.** Alcohols and ethers are isomeric with each other . But, the boiling point of ethers is always lower than that of alcohols, due to the following reason :

- A. Hydrogen bond is present in ethers
- B. Hydrogen bond is absent in ethers
- C. Hydrogen bond is absent in alcohols
- D. Lower mass

**Answer: B**



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**481.** Name the hydrocarbon formed when ethanol is heated with conc.  $H_2SO_4$  at  $170^\circ C$ ? What is this reaction known as?

- A. ethylene
- B. acetylene
- C. diethyl ether
- D. ethyl hydrogen sulphate

**Answer: A**



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**482.** When diethyl ether is treated with hot HI it forms :

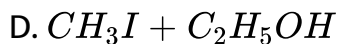
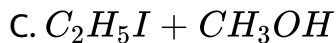
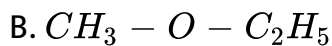
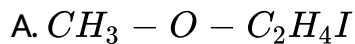
- A. ethyl iodide
- B. Acetyl iodide
- C. propyl iodide
- D. ethyl alcohol

**Answer: A**



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**483.** What is obtained when ethyl methyl ether is treated with hydroiodic acid ?

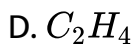
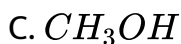
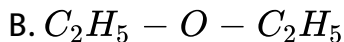
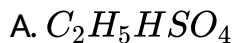


**Answer: D**



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**484.** A reaction between excess of  $C_2H_5OH$  and  $H_2SO_4$  at  $140^\circ C$ , gives



**Answer: B**



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**485.** A reaction between ethyl alcohol and conc. Sulphuric acid at  $373K$  gives

A. diethyl ether

B. methyl alcohol

C. ethene

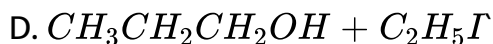
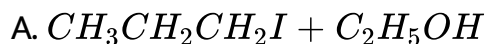
D. ethyl hydrogen sulphate

**Answer: D**



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**486.** Ethyl isopropyl ether reacts with cold HI to give



**Answer: B**





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**487.** Diethyl ether can be decomposed by heating with :

A.  $KMnO_4$

B. water

C. NaOH

D. HI

**Answer: D**



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**488.** Diethyl ether reacts with cold. HI to give

A. ethyl iodide

B. Ethanol

C. a and b

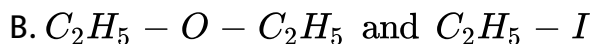
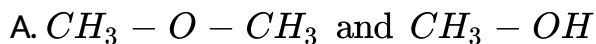
D. Ethyl iodide & water

**Answer: C**



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**489.** An organic compound X reacts with excess of HI to give Y. Further Y can combine with sodium metal to form ethane, then what are X and Y?



**Answer: D**



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**490. Ethers**

- A. Do not react with active metals
- B. Do not behave as oxidizing or reducing agents
- C. Do not react with strong bases
- D. All the above

**Answer: D**



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**491. The products formed when diethyl ether is reacted with cold**

**HI are :**

- A. Ethyl iodide and water
- B. Ethyl alcohol and ethyl iodide
- C. Ethane and water
- D. Ethyl alcohol and water

**Answer: B**



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**492.** Ethoxy ethane is hydrolysed by using

- A.  $\text{KOH}(\text{aq.})$
- B.  $\text{H}_2\text{O}$
- C.  $\text{NaHCO}_3$
- D. dil.  $\text{H}_2\text{SO}_4$

**Answer: D**



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**493.** When a mixture of ethyl alcohol and conc.  $H_2SO_4$  are heated at 413 K gives diethyl ether . This reaction is

- A. dehydration
- B. desulphonation
- C. intermolecular dehydration
- D. intramolecular dehydration

**Answer: C**



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**494.** A simple ether of molecular weight 46 on hydrolysis with dil. HCl gives

- A. 2 molecules of methyl alcohol
- B. one molecule of ethanol
- C. 1 molecule of ethanol and 1 molecule of methanol.
- D. 2 molecules of ethyl alcohol

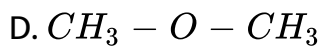
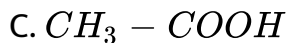
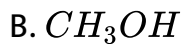
**Answer: A**



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**495.** The compound which cannot react with sodium metal but dissolves in  $H_2SO_4$

- A.  $CH_3 - I$

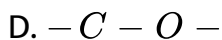
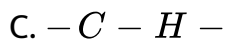
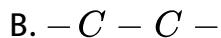
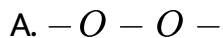


**Answer: D**



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**496.** In the reaction of ethers , the fission of the following bond takes place :

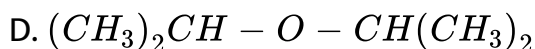
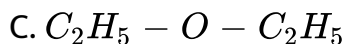
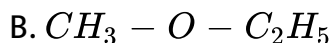
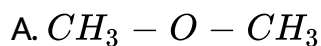


Answer: D



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497.  $C - O - C$  bond angle would be maximum in



Answer: D



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498. Diethyl ether is used as



- A. antibiotic
- B. antiseptic
- C. anaesthetic
- D. analgesic

**Answer: C**



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**499.** Diethyl ether is used as

- A. Refrigerants
- B. anaesthetic
- C. industrial solvent
- D. all of above

**Answer: D**



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**500.** Which one of the following cannot be considered as use of ether?

- A. Inert solvent
- B. Solvent of oils, fats and resins
- C. anaesthetic
- D. Antipyretic

**Answer: D**



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**501.** According to Lewis concept of acids and bases, ether is

- A. acidic
- B. basic
- C. neutral
- D. amphoteric

**Answer: B**



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**502.** Which of the following does not have carbonyl group ?

- A. Ethanoic acid
- B. Methanoic acid
- C. Aldehyde

D. Ether

**Answer: D**



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**503.** The C-O bond in ether is

A.  $sp^2 - sp^2$  overlap

B.  $sp^3 - p$  overlap

C.  $sp^3 - sp^3$  overlap

D.  $sp^3 - sp^2$  overlap

**Answer: C**



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**504.** Functional isomers of diethyl ether is/are

A. 1

B. 2

C. 3

D. 4

**Answer: D**



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**505.** Methyl ethers are prepared by treating primary alcohol with diazomethane in the presence of

A. Fluoroboric acid

B. pyridine

C.  $BF_3$

D. a and c both

**Answer: A**



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**506.** On reacting 2-methoxypropane with conc. HI at 273K the product are

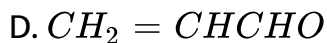
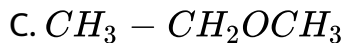
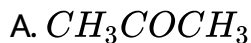
- A. methyl iodide and isopropyl alcohol
- B. 2-iodopropane and methyl alcohol
- C. isopropyl alcohol and methyl alcohol
- D. methyl iodide and isopropyl iodide

**Answer: B**



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507. which of the following does not give a precipitate with 2,4-dinitrophenyl hydrazine and does not react with metallic sodium.  
It could be



Answer: C



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508. Acetals are

A. Ketones

B. Diethers

C. Aldehyde

D. Hydroxy aldehydes

**Answer: B**



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**509.** Which of the following alcohols gives the best yield of dialkyl ether on being heated with a trace of sulphuric acid ?

A. 2-Pentanol

B. 2-methyl-2-butanol

C. 2-propanol

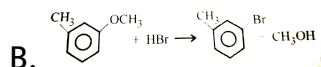
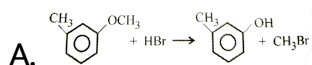
D. 1-Pentanol



Answer: D

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510. Which of the following reactions is correctly represented?



Answer: A

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**511.** One mole of an organic compound A with the formula  $C_3H_8O$  reacts completely with two moles of HI to form X and Y. When Y is boiled with aqueous alkali it forms Z. Z answers the iodoform test. The compound A is

- A. Propan-2-ol
- B. Propan-1-ol
- C. Ethoxyethane
- D. Methoxyethane

**Answer: D**



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**512.** In the reaction 

A. 

B. 

C. 

D. 

**Answer: D**



**View Text Solution**

**513.** The ethers 

A. 

B. 

C. 

D. 

**Answer: D**



**View Text Solution**

**514.** Williamson's synthesis is useful for prepare

A. ethyl methyl ether

B. dimethyl ether

C. diethyl ether

D. all of these

**Answer: D**



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**515.** Dimethyl ether when heated with excess HI gives :

A.  $CH_3I$  and  $H_2O$

B.  $CH_3OH$  and  $CH_3I$

C.  $CH_3I$  only

D.  $CH_3OH$  and  $H_2O$

**Answer: B**



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**516.** in a continuous etherification process alcohol undergoes

A. intermolecular dehydration

B. intramolecular dehydration

C. oxidation

D. hydration

**Answer: A**



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**517.** Ethers have the following type of geometry :

A. Pyramidal

B. Angular

C. Tetrahedral

D. Linear

**Answer: C**



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**518.** The IUPAC name of  $CH_3OC_2H_5$  is

- A. methoxy ethane
- B. ethoxy ethane
- C. methyl ethyl ether
- D. ethyl methyl ether

**Answer: A**



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**519.** Dimethyl ether and ethyl alcohol are

- A. functional isomers
- B. position isomers
- C. metamers
- D. homologous

**Answer: A**



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**520.** Which one of the following compound can be prepared by the continuous etherfication process ?

A. Methoxy ethane

B. ethoxy ethane

C. Propoxy ethane

D. ethoxy propane

**Answer: B**



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521. Which of the following compound is not linear ?

A. Ether

B.  $CO_2$

C.  $BeF_2$

D.  $BeH_2$

Answer: A



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522. 2-methoxy propane, when heated with dil.  $H_2SO_4$  under pressure will give

A. methanol, propan-2-ol

B. propan-2-ol,  $H_2O$

C. propan-1-ol, methyl hydrogen sulphate

D. propan-1-ol, methanol

**Answer: A**



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**523.** 2-methoxy butane is obtained by reacting diazomethane with

A. 1-butanol

B. ethyl alcohol

C. 2-butanol

D. Isopropyl alcohol

**Answer: C**



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**524.** 2-ethoxy propane can be obtained by heating ethyl bromide with

- A. sodium-n-propoxide
- B. sodium isopropoxide
- C. n-propyl bromide
- D. isopropyl bromide

**Answer: B**



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**525.** IUPAC name of ethyl isopropyl ether is

- A. 1-Ethoxy propane
- B. 2-Ethoxy propane

C. 1-Ethoxy 2-methyl propane

D. 2-Ethoxy 2-methyl propane

**Answer: B**



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**526.** Ether and monohydroxy alcohol are

A. Metamer

B. functional isomers

C. position isomers

D. chain isomers

**Answer: B**



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527. Which of the following is formed by the reaction with diazomethane ?

- A. diethyl ether
- B. methyl isopropyl ether
- C. Ethyl methyl amine
- D. Acetaldehyde

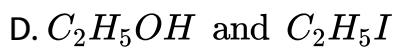
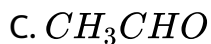
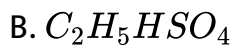
**Answer: B**



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528. Diethyl ether ( $C_2H_5 - O - C_2H_5$ ) on boiling with dilute  $H_2SO_4$  under pressure gives

- A.  $C_2H_5OH$



**Answer: A**



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**529.** IUPAC name of a compound is 2-Ethoxy butane . Its common name is

A. Di-iso-propyl ether

B. Di-tert-butyl ether

C. Di-ethyl ether

D. Sec-Butyl ether

**Answer: D**



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**530.** Ethyl alcohol when heated with conc.  $H_2SO_4$  at  $140^\circ C$  give

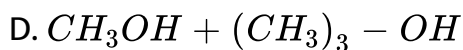
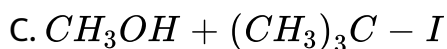
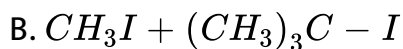
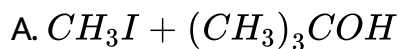
- A. diethyl ether
- B. ethylene
- C. methylethyl ether
- D. Ethanal

**Answer: A**



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531. Tert-butyl methyl ether on heating with anhydrous HI in ether gives



Answer: C



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532. Isopropyl methyl ether when treated with cold hydrogen iodide gives

A. isopropyl iodide and methyl iodide



- B. isopropyl alcohol and methyl iodide
- C. isopropyl alcohol and methyl alcohol
- D. isopropyl iodide and methyl alcohol

**Answer: B**



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**533.** Isopropyl methyl ether when treated with cold hydrogen iodide gives

- A. tert-butyl iodide and methyl iodide
- B. tert-butyl alcohol and methyl alcohol
- C. tert-butyl alcohol and methyl iodide
- D. tert-butyl iodide and methyl alcohol

**Answer: D**



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## Test your Grasp : Alcohols and Phenols

1. Primary secondary and tertiary alcohols are distinguished by

- A. Oxidation reaction
- B. Reduction reaction
- C. Dehydration reaction
- D. Substitution reaction

**Answer: A**



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2. Phenol is also called

- A. Benzyl alcohol
- B. Salicylic acid
- C. Carbolic acid
- D. Benzene alcohol

**Answer: C**



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3. *IUPAC* name of picric acid is

- A. 2,4,6- trinitrophenol
- B. 2,4,6-trinitro-1-hydroxy hexane
- C. 2,4,6-trinitro-1-hydroxy benzene

D. 1,3,5-trinitro-6-hydroxy benzene

**Answer: A**



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4. Ethyl alcohol on heating with HI yields

A. Ethane

B. Ethyl iodide

C. Ethylene

D. Methane

**Answer: B**



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5. Which of the following compounds will give a characteristic deep colour with ferric chloride solution ?

- A. Acetone
- B. Ethanol
- C. Phenol
- D. Acetic acid

**Answer: C**



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6. Which one of the following is a tertiary alcohol ?

- A. Pentan-1-ol
- B. Pentan-2-ol
- C. 2-Methylpentan-2-ol

D. 3-Methylpentan-2-ol

**Answer: C**



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7. Which of the following alcohol cannot be prepared by hydration of the corresponding alkene ?

A. Ethanol

B. Propan-1-ol

C. Propan-2-ol

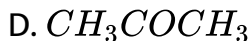
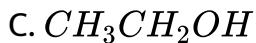
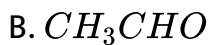
D. 2-Methylpropan-2-ol

**Answer: B**



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8. Which of the following compounds when treated with  $\text{CH}_3\text{MgI}$  in dry ether followed by the hydrolysis, will give Propan-2-ol ?



**Answer: B**



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9. Alcohols which have two hydroxyl ( $-\text{OH}$ ) groups are called \_\_\_\_\_

A. Triols

B. Diols

C. Glycols

D. either b or c

**Answer: B**



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**10. Sodium will sink in**

A. Ethanol

B. Water

C. Kerosene

D. Both ethanol and kerosene

**Answer: C**





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11. Ethanol is used in the preparation of

- A. DDT
- B. Gammexane
- C. Paint
- D. Tincture iodine

**Answer: A**



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12. A tertiary alcohol is obtained when Grignard reagent react with

- A. Pentanone

- B. Butanone
- C. Propanone
- D. all of these

**Answer: D**



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**13. Glycerol contains**

- A. one primary and two secondary alcoholic group
- B. three primary alcoholic group
- C. two primary and one secondary alcoholic group
- D. three secondary alcoholic group

**Answer: C**



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14. The first product of oxidation of a primary alcohol is

- A. Aldehyde
- B. Carboxylic acid
- C. Ketone
- D. Alkene

**Answer: A**



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15. Acetaldehyde reacts with  $CH_3MgBr$  and the product on hydrolysis gives

- A. acetone

B. ethyl alcohol

C. n-propyl alcohol

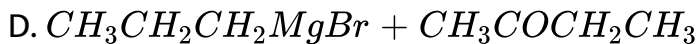
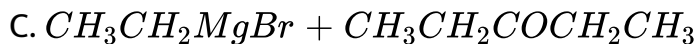
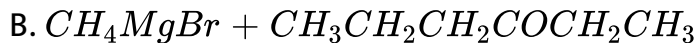
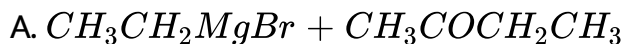
D. isopropyl alcohol

**Answer: D**



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**16.** To prepare 3-ethylpentan-3-ol, the reactants needed are



**Answer: C**



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17. Ethly alcohol is highly soluble in water because

- A. it is covalent in nature
- B. it is ionic in nature
- C. it forms intermolecular hydrogen bonds with water
- D. it dissociates in water

**Answer: C**



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18. Phenol on treatment with bromine water gives

- A. o-bromophenol
- B. p-bromophenol

C. a mixture of ortho and para bromophenol

D. 2,4,6-Tribromophenol .

**Answer: D**



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**19. Phenol is**

A. neutral compound

B. weaker acid than  $NH_3$

C. weaker acid than carbonic acid

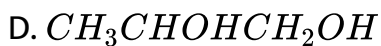
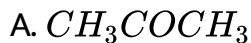
D. stronger acid than carbonic acid

**Answer: C**



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20. Which compound on reaction with  $CH_3MgBr$  and water will form 2-methyl-2-propanol ?



**Answer: A**



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21. Alcohol is an organic compound which reacts with an organic acid to give an \_\_\_\_\_ .

A. Amine

B. Ester

C. Ether

D. Aldehyde

**Answer: B**



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**22. Higher members of alcohols are**

A. waxy substances

B. oily in nature

C. fatty in nature

D. volatile

**Answer: A**



23. Commercial preparation of phenol is made by

A. Chlorobenzene

B.  $CHCl_3$

C.  $C_6H_5NO_2$

D. Cumene

Answer: D



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24. When concentrated  $H_2SO_4$  at room temperature , phenol gives

A. o-phenol sulphonic acid

B. p-phenol sulphonic acid

C. picric acid

D. o-nitric phenol

**Answer: A**



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**25. Cumene is obtained from benzene by**

A. Friedel-Craft reaction

B. Wurtz reaction

C. Williamson's reaction

D. Clemmenson's reduction

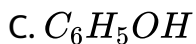
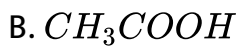
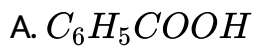
**Answer: A**





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26. Compound that fails to give effervescence with  $NaHCO_3$  is



D. Picric acid

Answer: C



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27. Phenol gives characteristic colouration with

A. isodine solution

B. bromine water

C. ammonium hydroxide

D. aqueous ferric chloride solution

**Answer: D**



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**28.** Dehydration is most easy for

A. secondary alcohols

B. tertiary alcohols

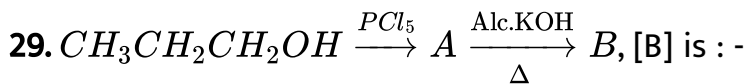
C. primary alcohols

D.  $CH_3OH$

**Answer: B**



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- A. Propane
- B. Propanol
- C. Propene
- D. Propylene

**Answer: C**



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30. In the presence of alumina as catalyst , two alcohol molecules will undergo dehydration and form

- A. Ester
- B. Ether

C. Anhydride

D. Alcohol

**Answer: B**



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**31.** Chlorobenzene on heating with NaOH at  $350^{\circ}\text{C}$  under pressure gives

A. Phenol

B. Chlorophenol

C. Benzaldehyde

D. both b and c

**Answer: A**



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**32.** Which of the following is not characteristic of alcohols?

- A. Lower member are insoluble in wate and organic solvents  
but solubility regularly increases with molecular weights .
- B. Lower members have a pleasant smell and burning taste,  
higher members are odourless and tasteless.
- C. Their boiling points rise with rising molecular weight
- D. They are lighter than water

**Answer: A**



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**33.** Isopropyl alcohol on oxidation forms :

- A. Ethylene
- B. Acetone
- C. Ether
- D. Acetaldehyde

**Answer: B**



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**34.** Which of the following compound is the starting material for the preparation of  $CH_3I$  ?

- A.  $CH_3OH$
- B.  $CH_3CHO$
- C.  $C_2H_5OH$
- D.  $CH_3COCH_3$



**Answer: A**



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**35.** Phenol and alcohol gives phenoxide and alkoxide respectively on reaction with a metal . The metal is

A. Na

B. K

C. Mg

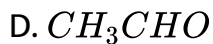
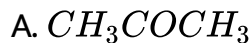
D. Mn

**Answer: A**



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36. Primary alcohols are obtained by the reaction of Grignard reagent with



Answer: C



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37. With bromine water phenol gives

A. violet colouration

B. yellowish precipitate

C. effervesce of  $Br_2$

D. both b and c

**Answer: B**



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**38.** In  $CH_3OH$  the bond that undergoes heterolytic fission most readily is

A. C-C

B. O-H

C. C-O

D. C-H

**Answer: B**



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**39.** A ketone , on reduction with Na-Hg in water gives

- A. primary alcohol
- B. tertiary alcohols
- C. secondary alcohol
- D. acid

**Answer: C**



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**40.** Phenol on standing in air develops a red colour due to formation of :

- A. Resorcinol

B. Phenoquinone

C. Quinol

D. Cyclohexanone

**Answer: B**



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## Test your Grasp : Ethers

1. Ethers contain which of the following ?

A. O-C-O

B. C-O-C

C. Si-O-Si

D. Either a or b

**Answer: B**



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2. Cold HI reacts with  $CH_3 - O - C_2H_5$  to give

A.  $CH_3OH$  and  $C_2H_5I$

B.  $CH_3OH$  and  $C_2H_5OH$

C.  $CH_3I$  and  $C_2H_5OH$

D.  $CH_3I$  and  $C_2H_5I$

**Answer: C**



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3. Ethers are considered as

- A. monoalkyl derivatives of water
- B. alkoxy derivatives of alkanes
- C. alkyl derivatives of fatty acid
- D. condensation products of acid and alcohol

**Answer: B**



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4. Which one of the following pairs of compounds represent the metamers ?

- A. n-Butyl alcohol and isobutyl alcohol
- B. n-Butyl alcohol and diethyl ether
- C. Isopropyl methyl ether and isobutyl methyl ether
- D. Diethyl ether and isopropyl methyl ether

**Answer: D**



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5. Which one of the following compounds is not isomeric with Ethoxyethane ?

A. 1-Methoxypropane

B. 2-Methoxypropane

C. 2-Methylpropan-2-ol

D. 2-Methylbutan-2-ol

**Answer: D**



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6. The IUPAC name of  $C_2H_5 - O - CH_2 - CH(CH_3)_2$  is

- A. 1-Ethoxy-1-butane
- B. 2-Ethoxy-2-butane
- C. 1-Ethoxy-2-methylpropane
- D. 3-Ethoxy-2-methylpropane

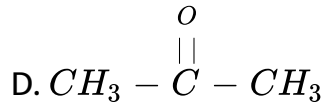
**Answer: C**



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7. Methoxy methane in the IUPAC name of

- A.  $CH_3 - O - CH_3$
- B.  $C_2H_5 - O - C_2H_5$
- C.  $CH_3 - O - C_2H_5$



**Answer: A**



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8. Which of the following is not true about diethyl ether ?

A. It is inflammable

B. It is soluble in water

C. It is soluble in dilute  $\text{H}_2\text{SO}_4$

D. It is volatile

**Answer: B**



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9. Diazomethane reacts with ethyl alcohol to give

- A. Methoxy ethane
- B. Ethoxy methane
- C. Methoxy methane
- D. Diethyl ether

**Answer: A**



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10. The reaction  $CH_3I + CH_3ONa \rightarrow CH_3 - O - CH_3 + NaI$  is

- A. Kolbe's reaction
- B. Wurtz reaction

C. Williamson's synthesis

D. Hoffman's reaction

**Answer: C**



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11. An organic compound X reacts with excess of HI to give Y. Further Y can combine with sodium metal to form ethane, then what are X and Y?

A.  $CH_3 - O - CH_3$  and  $CH_3OH$

B.  $C_2H_5 - O - C_2H_5$  and  $C_2H_5I$

C.  $CH_3 - O - CH_3$  and  $C_2H_5I$

D.  $CH_3 - O - CH_3$  and  $CH_3I$

**Answer: D**



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12. Intermolecular dehydration of alcohols gives

A. Alkenes

B. Alkanes

C. Ethers

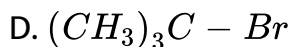
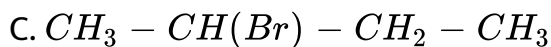
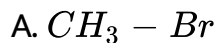
D. Alkynes

**Answer: C**



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13. Which one of the following alkyl halide gives best yield in Williamson synthesis ?



**Answer: A**



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**14.** Which one of the following ethers cannot be prepared by using diazomethane ?

A. Dimethyl ether

B. Diethyl ether

C. Ethyl methyl ether

D. t-Butyl methyl ether

**Answer: B**



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**15.** Bromo ethane reacts with \_\_\_\_\_ to give ethoxyethane .

A. Sodium ethoxide

B. Ethane

C. Ethanol

D. Ethanamine

**Answer: A**



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**16.** The continuous etherification process will generally give

- A. alkane
- B. only simple ethers
- C. only mixed ethers
- D. both simple ethers and mixed ethers

**Answer: B**



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**17. Ethers may behaves as**

- A. Oxidising agent
- B. Lewis acid
- C. Lewis base
- D. Reducing agent



**Answer: C**



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**18.** Solvent ether in chemical reaction is

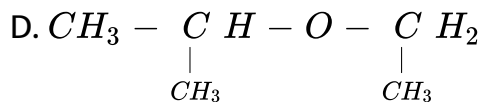
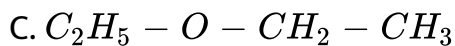
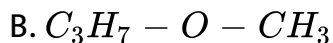
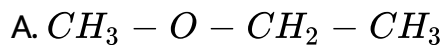
- A. Inert
- B. Acidic
- C. Basic
- D. Phenolic

**Answer: A**



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**19.** A simple ether is



**Answer: C**



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**20.** Ethers are used as

A. an anaesthetic

B. a solvent

C. plasticisers

D. all of these

**Answer: D**



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**21.** Which one of the following compounds dissolves in hot dilute sulphuric acid but does not react with sodium metal ?

A. Ethyl bromide

B. Acetic acid

C. Ethyl alcohol

D. Diethyl ether

**Answer: D**



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22. Which one of the following ethers on hydrolysis gives two different products that are successive members of a homologous series ?

- A. Methoxymethane
- B. Ethoxyethane
- C. Methoxyethane
- D. 2-Methoxypropane

**Answer: C**



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23. Diethyl ether is used as a solvent in many organic reactions because it

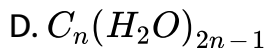
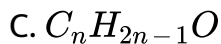
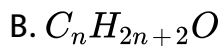
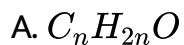
- A. it liquid at room temperature
- B. has lower boiling point
- C. contains divalent oxygen atom
- D. is inert in nature

**Answer: D**



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**24. General formula of ethers is**



**Answer: B**



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**25.** Isomers of diethyl ether are

(i) 2-Methyl propan-2-ol

(ii) 2-Methyl-propan-1-ol

(iii) Propanone

(iv) Butan-1-ol

A. i,ii, and iv

B. i,ii, and iii

C. iii and iv

D. i and iv only

**Answer: A**



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26. \_\_\_\_\_ bond is present in sodium ethoxide .

- A. Metal-hydrogen
- B. Metal - oxygen
- C. Metal - metal
- D. Metal-Carbon

**Answer: B**



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27. The R-O-R bond angle in ether is

- A.  $90^\circ$
- B.  $104^\circ$

C.  $110^\circ$

D.  $180^\circ$

**Answer: C**



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**28.** The number of carbon atom present in a simple ether molecule is

A. always odd

B. always even

C. either odd or even

D. unpredictable

**Answer: B**



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29. Diethyl ether is \_\_\_\_\_

- A. gas
- B. Liquid
- C. Solid
- D. Semisolid gas

**Answer: B**



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30. Hybrid state of central oxygen atom in ether is

- A.  $sp^2$
- B.  $sp^3$

C.  $sp$

D.  $sp^3d$

**Answer: B**



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