



CHEMISTRY

BOOKS - NIKITA CHEMISTRY (HINGLISH)

ALCOHOLS , PHENOLS AND ETHERS

MCQs

1. How many isomers of $C_5H_{11}OH$ will be 1° alcohols?

- A. Five
- B. Four
- C. Two
- D. Seven

Answer: B



2. Which of the following is trihydric alcohol ?

- A. Glycine
- B. Glycerol
- C. Glycol
- D. 2-heptanol

Answer: B

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3. In glycerine,

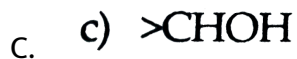
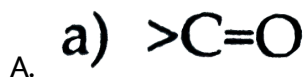
- A. one 1° OH group is present
- B. one 2° OH group is present
- C. two 2° OH groups are present

D. one 3° OH group is present

Answer: B

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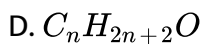
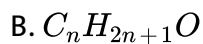
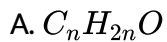
4. General representation of primary alcohol is



Answer: B

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5. The general formula, which represent the homologous series of alcohol is



Answer: D



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6. Grain spirit is

A. isopropyl alcohol

B. isobutyl alcohol

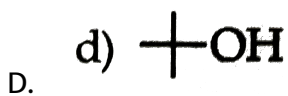
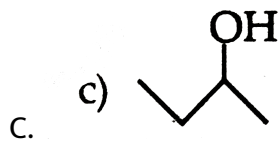
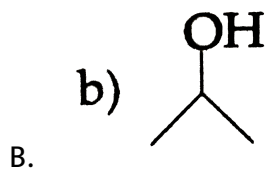
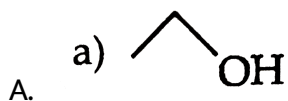
C. methyl alcohol

D. ethyl alcohol

Answer: D

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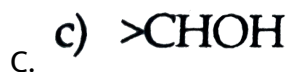
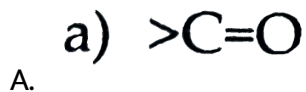
7. Which of the following has primary alcoholic group?



Answer: A

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8. The characteristic grouping of secondary alcohol is

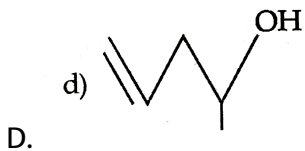


Answer: C

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9. Which of the following alcohol contain vinyl group





Answer: C

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10. How many ethers are possible for formula $C_4H_{10}O$?

A. 2

B. 3

C. 4

D. 5

Answer: B

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11. In allylic alcohol - OH group is attached to

- A. sp - hybridised carbon atom
- B. sp^2 - hybridised carbon atom
- C. sp^3 - hybridised carbon atom
- D. sp^3 -d-hybridised carbon atom

Answer: C

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12. Which of the following is allylic alcohol



A.



B.



C.



D.

Answer: B

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13. Butane - 2 - ol is

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

Answer: B

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14. Allylic alcohols may be

A. 1° types

B. 2° types

C. 3° types

D. $1^\circ, 2^\circ, 3^\circ$ types

Answer: D



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15. Which is a primary alcohol ?

A. Butan-2-ol

B. Butan-1-ol

C. Propan-2-ol

D. Isopropyl alcohol

Answer: B



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16. Aralkyl alcohols are also named as

- A. allylic alcohol
- B. vinylic alcohol
- C. benzylic alcohol
- D. aryl alcohol

Answer: C



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17. IUPAC name of the compound $CH_3CH(C_2H_5)CH_2CH(OH)CH_3$ is

- A. 2-methylhexan- 3-ol

B. 4-methylhexan -2-ol

C. heptanol

D. all of these

Answer: B

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18. Wood alcohol is

A. phenol

B. CH_3OH

C. C_2H_5OH

D. CH_3COOH

Answer: B

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19. In vinyl alcohol -OH group is attached to

- A. sp - hybridised carbon atom
- B. sp^2 - hybridised carbon atom
- C. sp^3 - hybridised carbon atom
- D. sp^2 -d-hybridised carbon atom

Answer: B



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20. How many metamers are possible for $C_4H_{10}O$?

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

Answer: C



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21. Ethyl methyl carbinol is,

A. n-butyl alcohol

B. t-butyl alcohol

C. sec. butyl alcohol

D. isobutyl alcohol

Answer: C



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22. Methyl carbinol is

A. ethanol

B. propan-2-ol

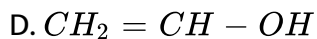
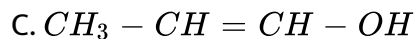
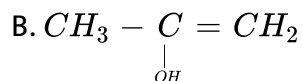
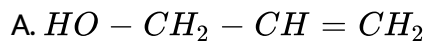
C. propan-1-ol

D. methanol

Answer: A

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23. Vinyl carbinol is



Answer: A

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24. Ethanol containing some methanol is called as

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

Answer: A



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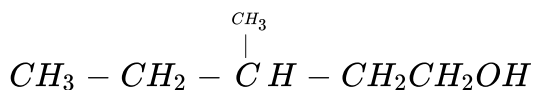
25. IUPAC name of secondary butyl alcohol is

- A. 2-methylpropan-1-ol
- B. butan-2-ol
- C. 2-methylpropan-2-ol
- D. butan-1-ol

Answer: B

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26. IUPAC name of following compound is



A. 5-ethyl -3-methylpentan-1-ol

B. 3-methylpentan-1-ol

C. 3-ethylpentan-1-ol

D. 3, 5-diethylpentan-1-ol

Answer: B

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27. IUPAC name of t-butyl alcohol is

A. 2-methylpropan-1-ol

B. 2-methylbutan-1-ol

C. 2-methylpropan-2-ol

D. 1-methylpropan-2-ol

Answer: C

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28. The compound which is not isomeric with diethyl ether is

A. n-propyl methyl ether

B. butan-1-ol

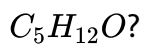
C. 2-methylpropan-2-ol

D. butanone

Answer: D

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29. How many compounds show optical isomerism of molecular formula



A. 2

B. 3

C. 4

D. 5

Answer: B



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30. Molecular formula C_2H_6O represents

A. alcohols and acids

B. alcohols and ethers

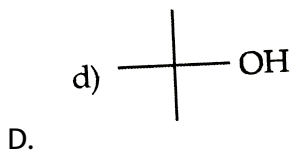
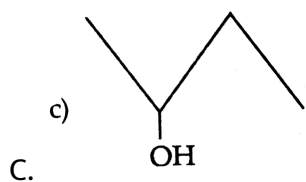
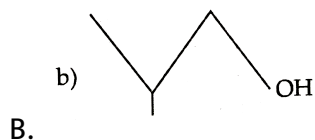
C. only alcohols

D. only ethers

Answer: B

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31. Which isomer of $C_4H_{10}O$ is optically active ?



Answer: C

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32. Molecular formula C_3H_3O shows

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

Answer: B

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33. Alcohols exhibit

- A. chain isomerism
- B. position isomerism
- C. optical isomerism

D. all of these

Answer: D

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34. Total number of isomers including structural and stereoisomers of molecular formula $C_4H_{10}O$

A. 4

B. 7

C. 8

D. 10

Answer: C

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35. What type of isomerism is exhibited by pentanol?

- A. Position
- B. Chain
- C. Optical
- D. All of these

Answer: D



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36. Number of isomeric ethers with molecular formula $C_5H_{12}O$ are

- A. 4
- B. 6
- C. 8
- D. 10

Answer: B



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37. $C_5H_{10}O$ represents

- A. aldehydes
- B. ketones
- C. alcohols
- D. acids

Answer: C



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38. Which of the following are functional isomers?

- A. Alcohols and ethers

B. Alcohols and acids

C. Alcohols and aldehydes

D. Alcohols and ketones

Answer: D

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39. How many 3° alcohols are possible for C_3H_8O ?

A. 0

B. 1

C. 2

D. 3

Answer: A

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40. Hydration of alkene produces

- A. 1° alcohols or 2° alcohols
- B. 1° alcohols or 3° alcohols
- C. 1° , 2° and 3° alcohols
- D. 1° or 2° or 3° alcohols

Answer: D



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41. Hydration :

- A. takes place through carbocation
- B. is a reversible process
- C. follows electrophilic addition
- D. follows all of the above

B. aldehydes

C. ketones

D. alcohols

Answer: D

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44. In hydration of alkene first step is

A. nucleophilic attack of water on carbocation

B. deprotonation of carbocation

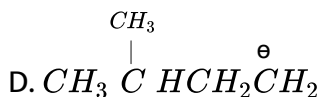
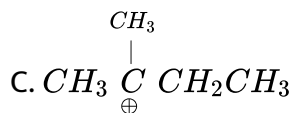
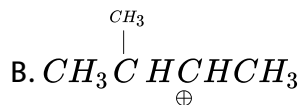
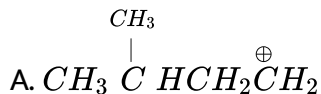
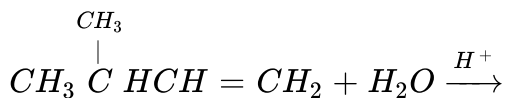
C. protonation of alkene

D. attack of H_3O^+

Answer: D

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45. In the following reaction most stable intermediate is



Answer: C



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46. In the hydration of an alkene carbocation is formed from :

A. carbanion

B. oxonium ion

C. hydroxide ion

D. hydride ion

Answer: B



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47. Reaction intermediate in hydration of alkene is

A. carbanion

B. carbon free radicals

C. carbocation

D. carbene

Answer: C



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48. In hydroboration oxidation of alkene , the initial attack is

A. boron

B. NaOH

C. H_2O_2

D. H^+

Answer: A



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49. Select incorrect statement about hydroboration-oxidation :

A. Addition is against Markownikoff rule

B. Intermediate is a carbocation

C. It does not involve rearrangement

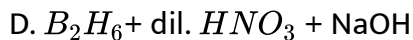
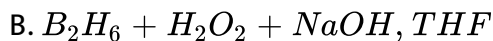
D. It is a addition reaction

Answer: B



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50. Reagents used in hydroboration oxidation reaction

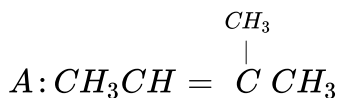


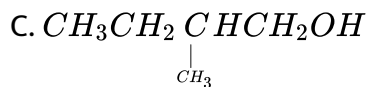
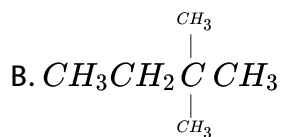
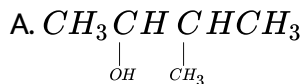
Answer: B



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51. A changes to ___ with hydroboration -oxidation



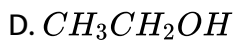
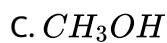
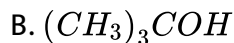
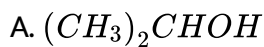


D. none of these

Answer: A

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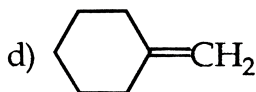
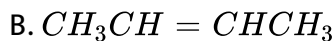
52. Alcohol containing least number of carbon which can be prepared using Grignard reagent is :



Answer: D

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53. Following alkene will give same product by any method out of hydration, hydroboration - oxidation :

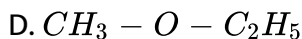
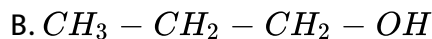
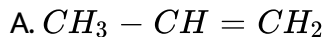
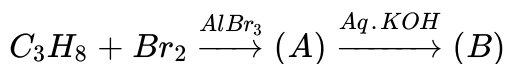


D.

Answer: B

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54. Find out (B) in the following reaction

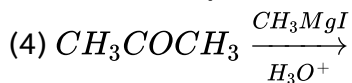
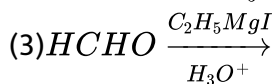
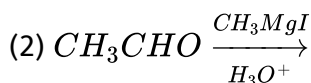
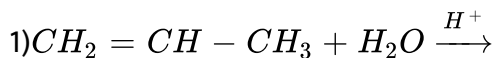


Answer: C



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55. Which of the following reactions will yield 2-propanol ?



A. 1 and 2

B. 2 and 3

C. 3 and 1

D. 2 and 4

Answer: A



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56. Treatment of 1-butene with conc. H_2SO_4 followed by treatment with water forms

A. 1-butanol

B. 2-butanol

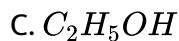
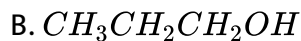
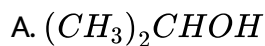
C. 2-propanol

D. 1-2-propan-diol

Answer: B

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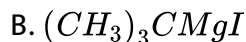
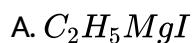
57. Acetone is treated with sodium amalgam and water gives,



Answer: A

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58. 2-methyl 2-pentanol is prepared from acetone and what?



D. $CH_3CH_2CH_2MgI$

Answer: D



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

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

Answer: A



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60. $R_2CO \rightarrow R_2CHOH$. The conversion is ,

A. reduction

B. oxidation

C. hydrolysis

D. hydration

Answer: A



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61. Propene can be converted into 2-propanol by hydration. Which of the following reagents is ideal to affect the conversion ?

A. Alkaline $KMnO_4$

B. Zn dust+ H_2O

C. conc. H_2SO_4

D. conc. HCl

Answer: C



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62. Using CH_3MgBr , which substrate would lead to $(CH_3)_3COH$?

- A. Acetone
- B. Acetyl chloride
- C. Acetaldehyde
- D. Isopropyl alcohol

Answer: A



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63. Which of the following is IUPAC name of the compound formed from reduction of 2-butanone ?

A. 1-butanol

B. 2-butanol

C. 1-butanal

D. 2-butanal

Answer: B

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64. Alcohols can be prepared by hydration of,

A. alkanes

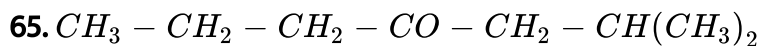
B. alkyl halides

C. alkyl amines

D. alkenes

Answer: D

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Catalytic hydrogenation of above compound in the presence of nickel catalyst gives

- A. an optically inactive compound
- B. an optically active compound
- C. compound with plane of symmetry
- D. a tertiary alcohol

Answer: B



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66. Alkenes convert into alcohols by

- A. hydrolysis by dil. H_2SO_4
- B. hydration of alkene by conc. H_2SO_4

C. hydrolysis by water vapours and conc. H_2SO_4

D. hydration of alkene by aqueous KOH

Answer: B

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67. Acid catalysed hydration of alkenes except ethene leads to the formation of

A. secondary or tertiary alcohol

B. primary alcohol

C. mixture of secondary and tertiary of alcohols

D. mixture of primary and secondary alcohols

Answer: A

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68. Which of the following is best reducing agent to convert $-COOH$ to $-CH_2-OH$

A. $Fe + conc. HCl$

B. $LiAlH_4$

C. $NaBH_4$

D. $Zn.Hg + HCl$

Answer: B



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69. Methanol is obtained by reduction of

A. $CH_3 - CHO$

B. $CH_3 - COOH$

C. $H - CONH_2$

D. $H-COOH$

Answer: D



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70. When C_2H_5MgI react with acetone and the addition product is hydrolysed we get

A. 1° alcohol

B. 2° alcohol

C. 3° alcohol

D. an aldehyde

Answer: C



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71. Benzyl alcohol is obtained by reduction of

A. benzoic acid

B. acetophenone

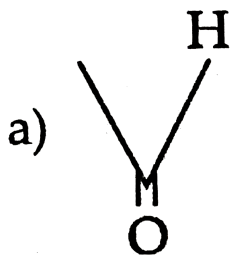
C. benzonitrile

D. benzamide

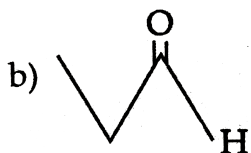
Answer: A

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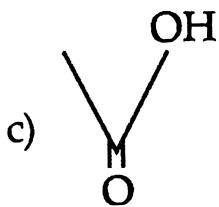
72. To prepare butan-2-ol from methyl magnesium iodide. The compound required is



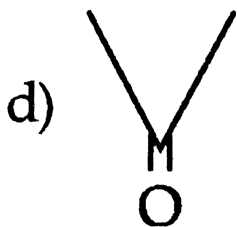
A.



B.



c.

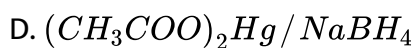
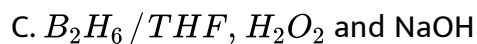
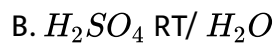
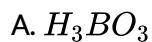


D.

Answer: B

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73. Propan-1-ol may be prepared by the reaction of propene with



Answer: C

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74. Styrene on hydroboration oxidation gives

A. 2-phenyl ethan-1-ol

B. 1-phenyl ethan-1-ol

C. benzoic acid

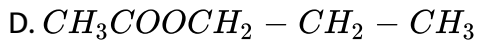
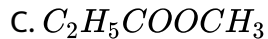
D. benzaldehyde

Answer: A

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75. Which of the following produces only one product on reduction with

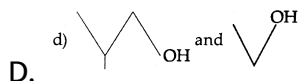
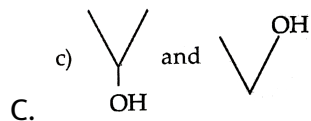
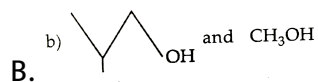
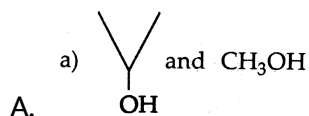
$LiAlH_4$



Answer: A

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76. Catalytic hydrogenation of methyl 2-methyl propanoate gives



Answer: B



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77. Aldehydes and ketone reacts with Grignards reagent gives

A. mixture of 1° , 2° , 3° alcohols

B. 1° or 2° or 3° alcohols

C. 1° or 2° alcohols

D. 2° or 3° alcohols

Answer: B



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78. Benzaldehyde and phenyl magnesium halide gives

A. Benzyl alcohol

B. diphenyl ketone

C. diphenyl ethanol

D. diphenyl methanol

Answer: D

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79. Which reagent can bring about $R - COOH \rightarrow R - CH_2 - OH$

A. $Sn + HCl$

B. $Na + C_2H_5OH$

C. $H_2 + Pt$

D. $LiAlH_4$

Answer: D

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80. When wine is exposed to air it becomes sour due to

- A. oxidation of $C_2H_5 - OH$
- B. reduction of $C_2H_5 - OH$
- C. formation of $C_2H_5 - COOH$
- D. dissolution of CO_2

Answer: A



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81. Reaction used to convert acid to 1° alcohol is

- A. oxidation
- B. reduction
- C. polymerisation
- D. pyrolysis

Answer: B



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82. Carboxylic acid on reduction produces

- A. 1° alcohols
- B. 2° alcohols
- C. aldehydes
- D. ketones

Answer: A



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83. Ethene is subjected to hydroboration oxidation reaction followed by treatment with PCC gives

A. ethyl alcohol

B. acetaldehyde

C. acetic acid

D. acetone

Answer: B

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84. – CH_2OH group is obtained by reduction of

A. R-CN

B. $R - NO_2$

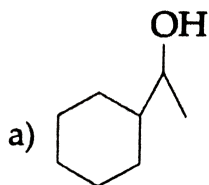
C. R-CO-R

D. R-COOH

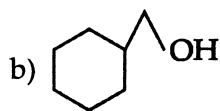
Answer: D

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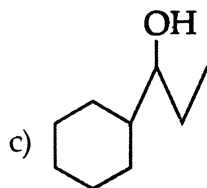
85. Cyclohexane carbaldehyde is reacted with ethyl magnesium halide in the presence of dry ether and product on acid hydrolysis gives



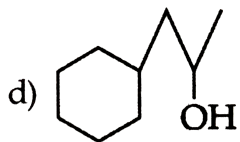
A.



B.



C.



D.

Answer: C



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86. Hydroboration oxidation of 3-methyl but-1-ene gives

A. 3-methylbutan-2-ol

B. 2-methylbutan-2-ol

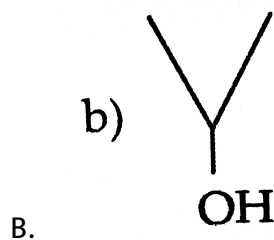
C. 3-methylbutan-1-ol

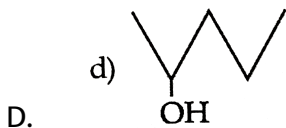
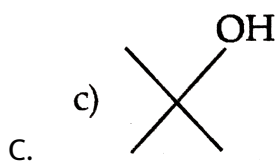
D. 2-methylbutan-1-ol

Answer: C

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87. Acrolein on reduction by using H_2/Ni gives





Answer: A

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88. 2-methyl propan-1-ol is obtained from 2-methyl prop-1-ene by using

A. dil. H_2SO_4

B. B_2H_6/THF , H_2O_2 and NaOH

C. $(CH_3COO)_2Hg + NaBH_4$

D. H_2/Ni

Answer: B

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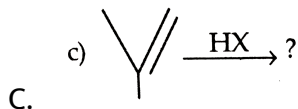
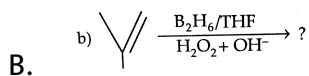
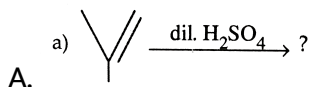
89. Benzaldehyde on reduction by using $\text{NaHg} + \text{H}_2\text{O}$ gives

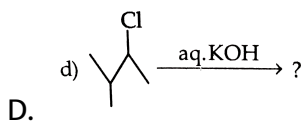
- A. benzyl alcohol
- B. phenol
- C. sodium benzoate
- D. sodium phenoxide

Answer: A

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90. In which of the following reaction carbocation not formed ?





Answer: B

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91. Alcohols are obtained by reduction of

1. R-CHO ,2. R-COR, 3 · R-COOH ,4. RCOOR

A. 1, 3

B. 1,3

C. 3,4

D. 1,2,3,4

Answer: D

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92. Ester on reduction by using $LiAlH_4$ produces

- A. single aldehyde
- B. single alcohol
- C. mixture of aldehyde
- D. mixture of alcohol

Answer: D



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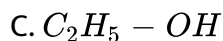
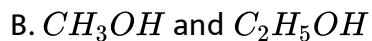
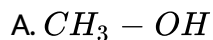
93. Ester are converted in to mixture of alcohol by

- A. acid hydrolysis
- B. alkaline hydrolysis
- C. catalytic hydrogenation
- D. oxidation

Answer: C

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94. Ethyl formate on catalytic hydrogenation gives

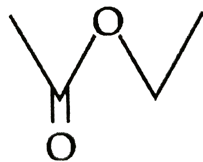


Answer: B

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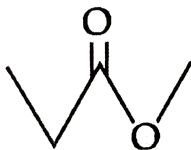
95. Mixture of methanol and ethanol is obtained from catalytic hydrogenation of

a)



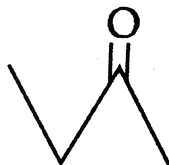
A.

b)



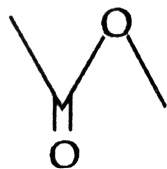
B.

c)



C.

d)



D.

Answer: D



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96. 3-methyl but-1-ene on HBO reaction gives

A. 3-methyl butan-2-ol

B. 2-methyl butan-2-ol

C. 3-methyl butan-1-ol

D. 2-methyl butan-1-ol

Answer: C

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97. HBO of but-2-ene produces

A. butan-1-ol

B. butan-2-ol

C. 2-methyl propan-2-ol

D. 2-methyl propan-1-ol

Answer: B

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98. Reduction of aldehydes and ketones produces

A. 1° alcohols

B. 2° alcohols

C. 3° alcohols

D. 1° or 2° alcohols

Answer: D



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99. Hydroboration oxidation of propene produces

a)

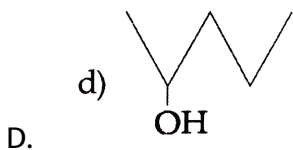


A.

b)



B.



Answer: A

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100. Which among the following reducing agents is 'not' used to reduce acetaldehyde to ethyl alcohol

A. Na-Hg and water

B. Zn-Hg and conc. HCl

C. H_2 - Raney Ni

D. $Li-AlH_4 / H^+$

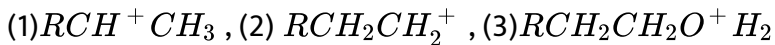
Answer: B





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101. Consider the following species



In the dehydration of straight chain 1° alcohols, the correct sequence of formation of the species involved is

A. 2,1

B. 1,2

C. 3,2

D. 2,3

Answer: C



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102. The correct order of increasing boiling points is

A. n-butane lt 1-butanol lt n-butyl chloride lt isobutane

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

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

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

Answer: D

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103. List the class of alcohols in decreasing order of reactivity towards HX

A. $3^\circ > 1^\circ > 2^\circ > \text{MeOH}$

B. $3^\circ > 2^\circ > 1^\circ > \text{MeOH}$

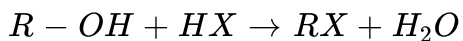
C. MeOH gt $1^\circ > 2^\circ > 3^\circ$

D. $2^\circ > 3^\circ > 1^\circ > \text{MeOH}$

Answer: B

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104. List the hydrogen halide acids in decreasing order of reactivity in the following reaction



- A. HBr gt HI gt HCl gt HF
- B. HI gt HBr gt HCl gt HF
- C. HI gt HF gt HBr gt HCl
- D. HI gt HCl gt HBr gt HF

Answer: B

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105. Which one of following is more reactive than the rest towards a Lucas reagent ?

- A. 1-butanol
- B. 2-butanol

C. methanol

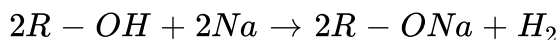
D. 2-methyl 2-propanol

Answer: D



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106. Sodium reacts with alcohol as given below



Place the type of alcohol into decreasing order of reactivity towards sodium.

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

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

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

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

Answer: D



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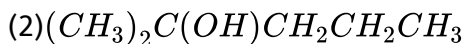
107. The main product of the reaction of $(C_2H_5)_2CHCHOHCH_3$ with conc. H_2SO_4 is

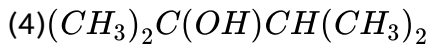
- A. $(CH_3CH_2)_2CH - CH = CH_2$
- B. $CH_3 - CH(C_2H_5)CH = CH - CH_3$
- C. $(C_2H_5)_2C = CH - CH_3$
- D. both 'a' and 'b'

Answer: C

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108. Place the following alcohols in decreasing order of rate of dehydration with conc. H_2SO_4 .





A. 4 gt 2 gt 1 gt 3

B. 1 gt 2 gt 3 gt 4

C. 4 gt 3 gt 2 gt 1

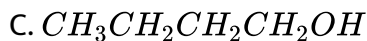
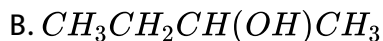
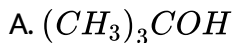
D. 4 gt 3 gt 1 gt 2

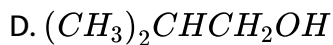
Answer: A



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109. An alcohol C_4H_9OH on dehydration gives an alkene, which on oxidation yield a acetone. The alcohol is





Answer: A

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110. The most stable carbonium ion is,

- A. methyl carbonium ion
- B. primary carbonium ion
- C. secondary carbonium ion
- D. tertiary carbonium ion.

Answer: D

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111. The compound with highest boiling point is

A. CH_4

B. CH_3OH

C. CH_3Cl

D. CH_3Br

Answer: B

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112. Hydrogen bonding is maximum in:

A. ethanol

B. diethyl ether

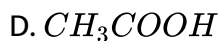
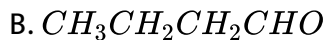
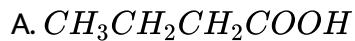
C. ethyl chloride

D. triethylamine.

Answer: A

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113. 1-butanol is treated with PCC gives,



Answer: B



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114. Lucas reagent is used to distinguish among primary, secondary and tertiary

A. alkyl halides

B. alcohols

C. aliphatic amines

D. aromatic amines.

Answer: B

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115. The compound which reacts faster with Lucas reagent at room temperature is

A. butan-1-ol

B. butan-2-ol

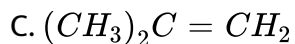
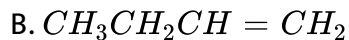
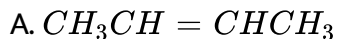
C. 2-methyl propan-1-ol

D. 2-methyl propan-2-ol

Answer: D

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116. t-butyl alcohol is heated with Al_2O_3 gives

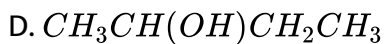
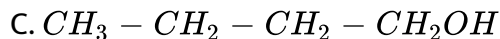
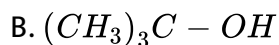


D. all of these

Answer: C

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117. The compound which gives the most stable carbonium ion on dehydration is



Answer: B



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118. Maximum number of active hydrogens are present in

- A. ethanoic acid
- B. ethyl alcohol
- C. ethylene glycol
- D. glycerol

Answer: D



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119. When t-butyl alcohol is heated with Cu at 573 K, it forms

- A. butanal

B. propanal

C. ethyl methyl ketone

D. 2-methyl prop-1-ene

Answer: D



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120. 1-butanol is oxidised by acidified $K_2Cr_2O_7$ give,

A. butanal

B. butanoic acid

C. butene

D. butane

Answer: B



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121. Alcohols gives alkyl halides, treatment with

A. PX_3

B. PX_5

C. HX

D. all of these

Answer: D



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122. When 2-methyl butane-1-ol is dehydrated to give an alkene, the preferred product is

A. 2-methyl 2-butene

B. 2-methyl 1-butene

C. 2-methyl 1-propene

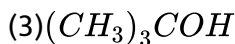
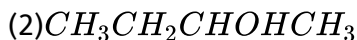
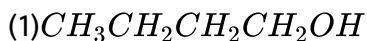
D. n-hexene

Answer: A



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123. Consider the following compounds



These compounds are dehydrated by treatment with H_2SO_4 . The correct sequence of increasing order of the reactivity of three compounds towards dehydration is

A. 3 lt 1 lt 2

B. 1 lt 2 lt 3

C. 2 lt 1 lt 3

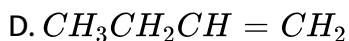
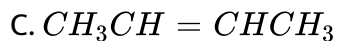
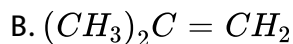
D. 1 lt 3 lt 2

Answer: B



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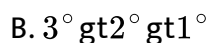
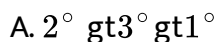
124. Which of the following alkene on acid catalysed hydration form propan-2-ol

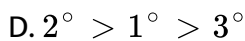
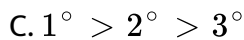


Answer: A

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125. In isomeric alcohols correct order of boiling point is,

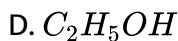
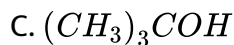
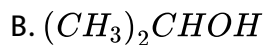
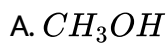




Answer: C

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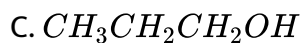
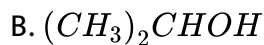
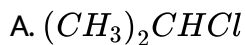
126. Which one of the following compound would not be oxidised by acidified $K_2Cr_2O_7$?



Answer: C

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127. Which of the following is expected to have highest boiling point ?



Answer: C



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128. Final product by the treatment of isobutyl alcohol with alumina is,

A. 2-methyl propene

B. 2-methyl but-1-ene

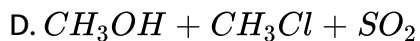
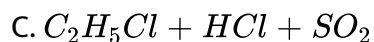
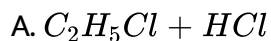
C. ethyl t-butyl ether

D. acetone and acetic acid

Answer: A

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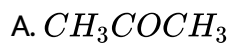
129. Ethyl alcohol is heated with $SOCl_2$ gives,

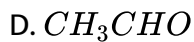
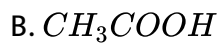


Answer: C

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130. Isopropyl alcohol is oxidised by CrO_3 gives,

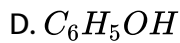
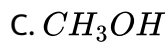
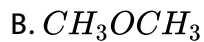
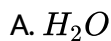




Answer: A

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131. Which of the following is most acidic ?



Answer: D

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132. Which of the following is oxidised to form ethyl methyl ketone ?

A. 2-propanol

B. 2-butanol

C. 1-butanol

D. 1-propanol

Answer: B

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

A. CH_3OH

B. C_3H_7OH

C. $C_6H_{13}OH$

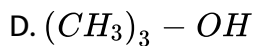
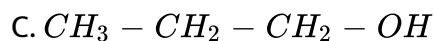
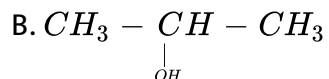
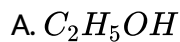
D. $C_{10}H_{21}OH$

Answer: D



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134. Which of the following is more acidic alcohol?

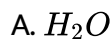


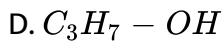
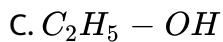
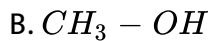
Answer: A



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135. Which of the following is most acidic



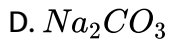
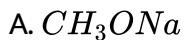


Answer: A



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136. Which of the following is strong base

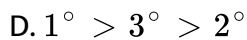
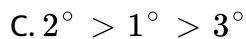
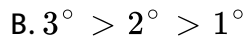
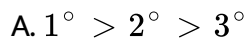


Answer: A



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137. Reactivity of alcohol in breaking O-H bond is

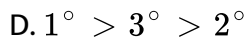
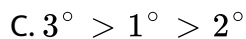
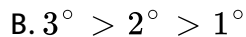
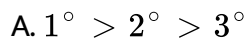


Answer: A



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138. Reactivity of alcohol in breaking of C-O bond is



Answer: B

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139. Boiling points of alcohols are generally high. This is due to

- A. hydrogen-bonding intermolecular attractions
- B. dipole-dipole attractions
- C. path of the above
- D. none of the above

Answer: C

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140. Which of the following functional groups can not be reduced by $H_2 /$

Ni

A. R-CHO

B. R-COOH

C. R-COO-R

D. R-CO-R

Answer: B

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141. 3-ethyl pentan-3-ol is obtained by C_2H_5MgBr and what?

A. pentan-2-one

B. pentan-3-one

C. pentanal

D. 3-methyl butan-2-one

Answer: B

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142. Acidic character of alcohols depends up on

- A. number of alkyl groups
- B. polarity of -OH groups
- C. types of alkyl groups
- D. all of these

Answer: D



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143. Order of acidity of alcohol is

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

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

Answer: A



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144. The B.P. of alcohols are much higher than the ethers of comparable molecular masses due to

A. intermolecular H - bonding

B. intermolecular H - bonding

C. dipole - dipole attraction

D. London - London forces

Answer: B



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145. Which one is not characteristic of alcohols ?

- A. They are lighter than water
- B. Their B.P. rise uniformly with increasing molecular mass
- C. Lower members are insoluble in water but solubility increases regularly
- D. Lower members have pleasant odour and burning test

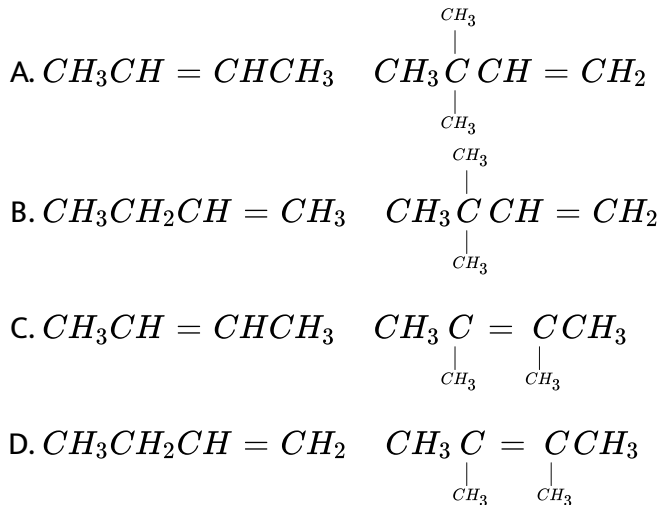
Answer: C

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146. Consider following reactions, I. $CH_3CH_2\underset{\substack{| \\ OH}}{CH}CH_3 \xrightarrow{H^+} A$ (major)

II. $CH_3\overset{\substack{| \\ CH_3}}{C} - \underset{\substack{| \\ OH}}{CH}CH_3 \xrightarrow{H^+} B$ (major)

A and B (both alkenes) are respectively :



Answer: C

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147. Glycerol is more viscous than propan-1-ol due to

- A. many hydrogen bonding per molecule
- B. high B.P.
- C. high molecular weight
- D. more Lewis basic character

Answer: A



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148. C_2H_5OH has higher B.P. than, $C_2H_5 - SH$ due to

- A. association
- B. dissociation
- C. low molecular mass
- D. two lone pair of electron on oxygen

Answer: A



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149. When 1 mol of ethanol reacts with sodium metal liberate how many gram of hydrogen ?

- A. 1/2 gm of hydrogen
- B. 1 gm of hydrogen

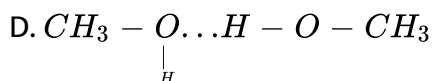
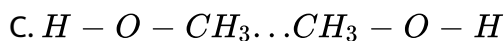
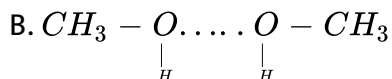
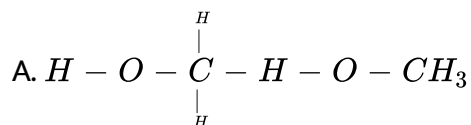
C. 1.5 gm of hydrogen

D. 2 gm of hydrogen

Answer: B

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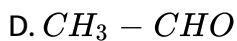
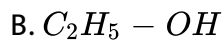
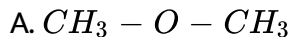
150. The dimer of methyl alcohol will have structure



Answer: D

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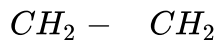
151. Which of following has highest B.P



Answer: B

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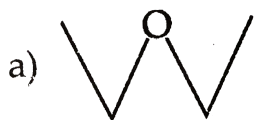
152. Which of following is the most viscous liquid ?



Answer: D

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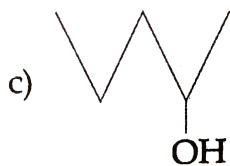
153. Which of the following exhibit highest B. P. ?



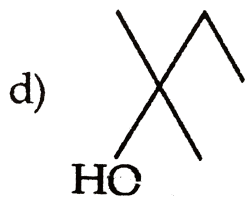
A.



B.



C.

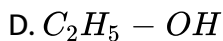
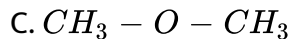
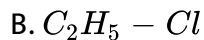
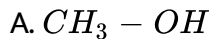


D.

Answer: B

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154. Which of the following is most soluble in water



Answer: A



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155. Reason for excessive solubility of alcohol in water is due to

A. covalent bonding

B. H- bonding with H_2O

C. ionic bonding

D. Lewis base character

Answer: B



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156. Alcohols of high molecular masses are

- A. high B.P. and excessible solubility
- B. low B.P. and excessive solubility
- C. high B.P. and low solubilit
- D. low B.P. and low solubility

Answer: C



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157. Compound with molecular formula C_3H_8O on vigorous oxidation produces an acid $C_3H_6O_2$. It is

A. 3° alcohol

B. 2° alcohol

C. 1° alcohol

D. not necessary

Answer: C

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158. Which of the following reacts less easily with sodium metal ?

A. t-butyl alcohol

B. isopropyl alcohol

C. methyl alcohol

D. ethyl alcohol

Answer: A

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159. Acetic acid and n-propyl alcohols has same molecular mass (60). Out of these two, which have higher B.P.

- A. Acetic acid
- B. n-propyl alcohol
- C. either
- D. neither

Answer: A



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160. $ZnCl_2$ in Lucas reagent is

- A. Lewis acid
- B. Lewis base
- C. both 'a' and 'b'

D. none of these

Answer: A

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161. Oxidation of 2-pentanone mainly produces

A. butyric acid and $CO_2 + H_2O$

B. acetic acid and propionic acid

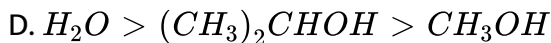
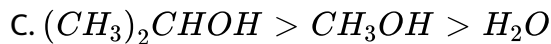
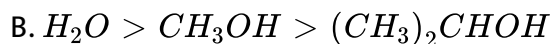
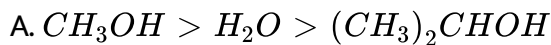
C. propionic acid+ $CO_2 + H_2O$

D. acetic acid and butyric acid

Answer: B

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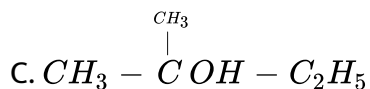
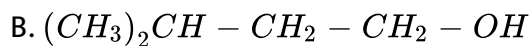
162. The correct increasing order of acidic strength is



Answer: B

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163. An alkyl halide $CH_3 - \overset{CH_3}{\underset{|}{C}}Cl - C_2H_5$ can be obtained by the action of HCl on which alcohol

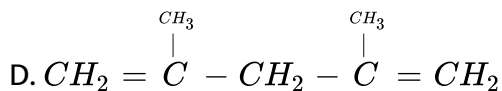
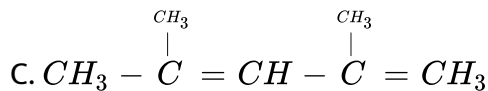
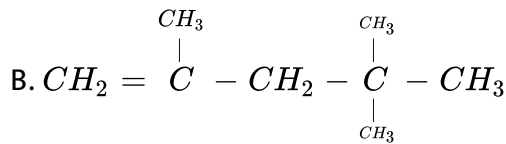
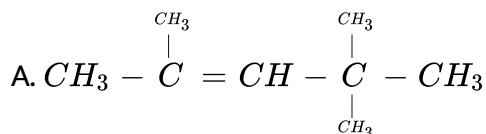


D. all of these

Answer: D

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164. $(CH_3)_2 - \underset{\text{OH}}{\underset{|}{C}} - CH_2 - C(CH_3)_3 \xrightarrow[\text{dichromate}]{\text{acidic}}$ the main product is



Answer: A

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165. Ethanol and Methanol are miscible in water due to

- A. ethyl group
- B. hydrogen bonding
- C. its neutral
- D. dissociation in water

Answer: B

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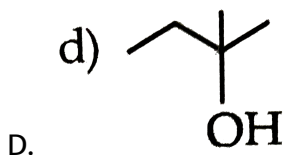
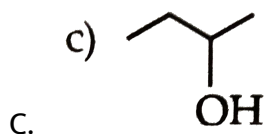
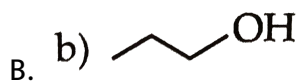
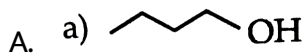
166. The final product of the oxidation of ethyl alcohol is

- A. ethane
- B. acetone
- C. acetaldehyde
- D. acetic acid

Answer: D

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167. Which has maximum pK_a value ?



Answer: D

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168. When ethyl alcohol is oxidised by copper, then which of the following aldehyde is formed ?

A. Formaldehyde

B. Acetyldehyde

C. Benzaldehyde

D. Crotonaldehyde

Answer: B

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169. The boiling point of a compound is raised by

A. volatility of compound

B. non-polarity in the molecules

C. intermolecular hydrogen bonding

D. intramolecular hydrogen bonding

Answer: C

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170. The alcohol, that is used as a beverage, is

A. propanol

B. butanol

C. ethanol

D. methanol

Answer: C



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171. Wood spirit is known as

A. methanol

B. ethanol

C. acetone

D. benzene

Answer: A

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172. The solubility of a gas in water depends upon

- A. acidic nature
- B. basic nature
- C. neutral nature
- D. tendency to form hydrogen bonding

Answer: D

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173. Consider the following substances

1) 2-propanol, 2) propanone, 3) methyl amine

The correct sequence of increasing order of boiling point is

A. 2 lt 3 lt 1

B. 1 lt 2 lt 3

C. 2 lt 1 lt 3

D. 3 lt 2 lt 1

Answer: A

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174. 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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175. The reaction $CH_3CH_2OH \xrightarrow[453\text{ K}]{95\% H_2SO_4} CH_2 = CH_2 + H_2O$ is an example of

- A. dehydration
- B. dehydrogenation
- C. hydration
- D. decarboxylation

Answer: A

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176. Tonics, generally contains,

- A. ether
- B. methanol
- C. ethanol

D. rectified spirit

Answer: C



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177. Dehydration is most easy for

A. primary alcohols

B. tertiary alcohols

C. secondary alcohols

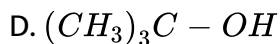
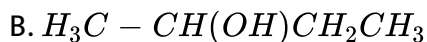
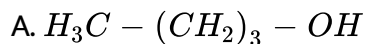
D. ethanol

Answer: B



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178. The alcohol, C_4H_9OH , when shaken with a mixture of anhydrous $ZnCl_2$ and conc. HCl give an immediate oil layer product. The alcohol is a



Answer: D



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179. On oxidation of alcohol gives an acid having the same number of carbon atoms. The alcohol is,

A. 1° alcohol

B. 2° alcohol

C. 3° alcohol

D. not necessary

Answer: A



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180. Secondary butyl alcohol is dehydrated according to

A. Saytzeff rule

B. Markownikoff rule

C. Anti-Markownikoff rule

D. none of these

Answer: A



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181. Olefins are obtained from alcohols by heating with

A. Al_2O_3

B. $LiAlH_4$

C. B_2H_6

D. $NaBH_4$

Answer: A



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182. 1° , 2° and 3° alcohols are identified by

A. Lucas test

B. oxidation test

C. haloform test

D. all of these

Answer: D



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183. 3, 3-dimethyl butan-2-ol on dehydration gives

- A. 3, 3-dimethyl but-2-ene
- B. 2, 3-dimethyl but-2-ene
- C. 2, 3-dimethyl but-1-ene
- D. 3, 3-dimethyl but-1-ene

Answer: B



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184. The compound on oxidation gives ketone, the original compound is

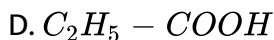
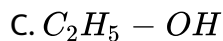
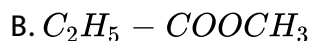
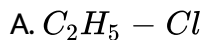
- A. 1° alcohol
- B. 2° alcohol
- C. 3° alcohol

D. carboxylic acid

Answer: B

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185. A organic compound (A) has pleasant odour, on boiling (A) with conc. H_2SO_4 at 443K produces colourless gas, which decolourises bromine water and Bayer's reagent. The original organic compound (A) is



Answer: C

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186. The most suitable reagent to convert primary alcohol to aldehyde

- A. acidified $K_2Cr_2O_7$
- B. alkaline $KMnO_4$
- C. CrO_3
- D. pyridinium chlorochromate (PCC)

Answer: D

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187. When compound (A) is oxidised by acidic $K_2Cr_2O_7$ gave (B). Compound (B) on reduction with $LiAlH_4$ gave (A). The compound (A) and (B) are respectively

- A. $CH_3 - COCH_3$ and $CH_3 - COOH$
- B. C_2H_5OH and $CH_3 - COCH_3$
- C. $C_2H_5 - OH$ and $CH_3 - COOH$

D. $CH_3 - CHO$ and CH_3COCH_3

Answer: C

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188. Which is best reagent to convert cyclohexanol to cyclohexene

A. conc. HCl

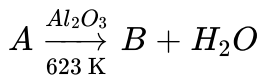
B. conc. HBr

C. conc. H_2SO_4

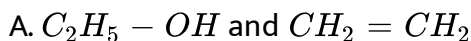
D. Lucas reagent

Answer: C

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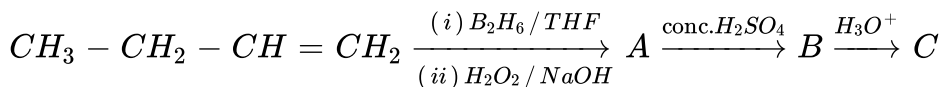
In above reaction A and B respectively



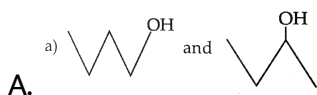
Answer: C

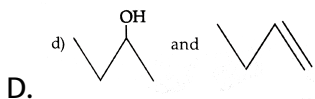
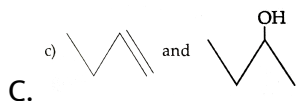
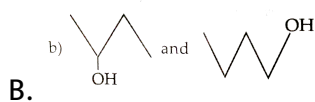
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190. In the sequence of reaction .



In above reaction A and C are respectively





Answer: A

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191. Dehydration of 3-phenyl butan-2-ol gives

- A. 2-phenyl but-2-ene
- B. 4-phenyl 2-methyl but-1-ene
- C. 1-phenyl 3-methyl but-1-ene
- D. 3-phenyl but-1-ene

Answer: A

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192. In dehydration of alcohol 1st step is

- A. formation of carbonium ion
- B. formation of carbonion
- C. loss of proton from carbonium ion
- D. protonated of alcohol

Answer: D



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193. Dehydration of alcohol produces alkene, the reaction intermediate is

- A. carbonium ion
- B. carbanion
- C. carbon free radical

D. carbene

Answer: A



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194. Denatured spirit is mainly used as a

A. good fuel

B. drug

C. solvent in preparing varnishes

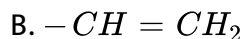
D. material in the preparation of oil

Answer: C



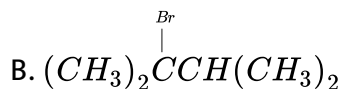
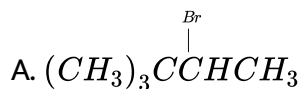
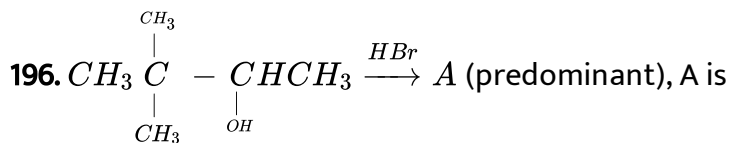
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195. Acetylation is a process in which the hydrogen of O-H group is replaced by



Answer: C

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C. both 'a' and 'b'

D. none is correct

Answer: B

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197. When 2, 3 dimethyl 2-butanol under goes acid catalysed dehydration the minor product is,

A. 2, 3 dimethyl 1-butene

B. 2, 3 dimethyl 2-butene

C. 3, 3 dimethyl 1-butene

D. none of these

Answer: A

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198. Lucas reagent is

- A. anhydrous $ZnCl_2$ dissolved in conc. HNO_3
- B. hydrous $ZnCl_2$ dissolved in conc. HCl
- C. anhydrous $ZnCl_2$ dissolved in conc. HCl
- D. anhydrous $ZnCl_2$ dissolved in dil. HCl

Answer: C



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199. Alcohols of low molecular weight are

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

Answer: C



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200. 6 mole of ethyl alcohol reacts with sodium metal. How many moles of hydrogen are liberated ?

A. 2

B. 3

C. 4

D. 6

Answer: B



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201. Catalytic oxidation of benzyl alcohol gives

A. benzaldehyde

B. benzoic acid

C. toluene

D. phenol

Answer: A

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202. The ease of dehydration of alcohol is in the order

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

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

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

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

Answer: C

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203. Alkenes are obtained from alcohols by

- A. oxidation
- B. hydration
- C. intermolecular dehydration
- D. intramolecular dehydration

Answer: D



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204. Methanol and ethanol are miscible in water due to

- A. dissociation in water
- B. their acidic nature
- C. hydrogen bond with water

D. alkyl groups

Answer: C



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205. When ethanol is treated with acidified $K_2Cr_2O_7$, it forms acetic acid.

It is an example of

A. hydrolysis

B. oxidation

C. reduction

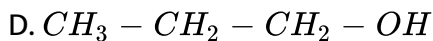
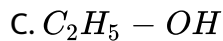
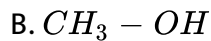
D. rearrangement

Answer: B



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206. Which of the following compound react fastest with sodium metal.



Answer: A



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207. Cyclohexanol is reacted with Lucas reagent gives

A. 1-cyclohexyl chloromethane

B. chlorocyclohexane

C. 1-chlorocyclohexene

D. 1-chlorocyclohexyne

Answer: B

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208. 1, 1-diphenyl methanol is reacted with, HI give

A. 1, 1-diphenyl iodomethane

B. 1, 1-diphenyl iodoethane

C. diphenyl

D. none of these

Answer: A

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209. Which of the following is not dehydrating agent?

A. H_2SO_4

B. H_3BO_3

C. ThO_2

D. $NaBH_4$

Answer: D

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210. Ethyl alcohol on heating with HI yield

A. ethane

B. ethylene

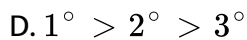
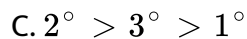
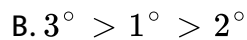
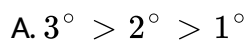
C. methane

D. ethyl iodide

Answer: D

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211. The decreasing order of basicity of alcohols are



Answer: A

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212. Which of the following alcohol reacts with HI by S_N1 reaction ?

A. t-butyl alcohol

B. methyl alcohol

C. n-propyl alcohol

D. ethyl alcohol

Answer: A

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213. Dehydration of neophentyl alcohol gives

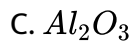
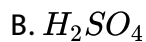
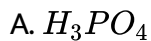
- A. 2-methyl but-1-ene
- B. 3-methyl but-1-ene
- C. 2-methyl but-2-ene
- D. no product will be formed

Answer: C

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214. Which of the following can be used as dehydrating agent for alcohols

?

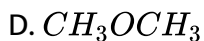
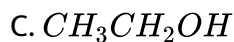
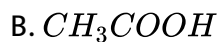
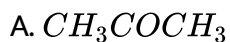


D. all of these

Answer: D

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215. Which of the following compound will lose a molecule of water of treating with conc. H_2SO_4 ?



Answer: C

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216. Which of the following is an example of elimination reaction ?

- A. Dehydration of alcohol
- B. Chlorination of CH_4
- C. Hydroxylation of C_2H_4
- D. Nitration of benzene

Answer: A

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217. 23 g of sodium react with 1 mole methyl alcohol to give

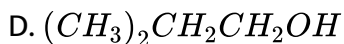
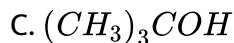
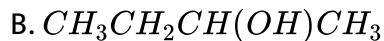
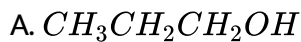
- A. half mole of H_2
- B. one mole of O_2
- C. one mole of H_2

D. either 'b' and 'c '

Answer: A

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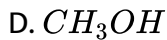
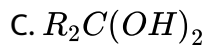
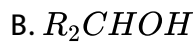
218. Which of the following compound will give ketone on oxidation ?



Answer: B

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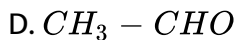
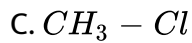
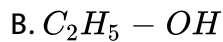
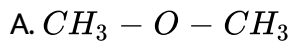
219. Which of the following is most acidic?



Answer: D

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220. Lucas test is positive with



Answer: B

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221. The first product of oxidation of primary alcohol is

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

Answer: D



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222. Sodium metal reacts readily with

- A. R-CHO
- B. $R - CH_2OH$
- C. ester

D. $R - NH_2$

Answer: B



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223. $KMnO_4$ acts as oxidising agent in

- A. acidic medium
- B. neutral medium
- C. alkaline medium
- D. all of the above

Answer: D



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224. The group obtained by the removal of H-atom of the -OH group of ROH is called

- A. alkyl group
- B. alkene
- C. alkoxy group
- D. all of these

Answer: C



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225. Alcohols are

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

Answer: A



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226. Which one of the following on oxidation gives a ketone?

- A. Primary alcohol
- B. Secondary alcohol
- C. Tertiary alcohol
- D. All of these

Answer: B



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227. Correct order of increasing boiling points is

- A. propane It n-butane It ethanol It water

B. propane lt ethanol lt n-butane lt water

C. waterlt ethanol lt propane lt n-butane

D. water lt propane lt n-butane lt ethanol

Answer: A

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228. The order of reactivity of fo llowing alcohols towards HCl is,

1. CH_3OH , 2. $CH_3CH_2CH_2OH$, 3. $(CH_3)_2CHOH$, 4. $(CH_3)_3COH$

A. 1 gt 2gt 3gt 4

B. 4 gt 3 gt 2 gt1

C. 3 gt 4 gt 2 gt 1

D. 2 gt 4 gt 1 gt 3

Answer: B

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229. Tertiary alcohols are resistant to oxidation because

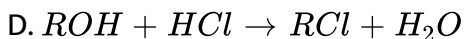
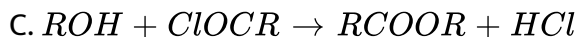
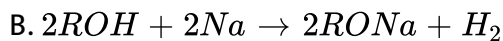
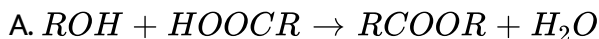
- A. they do not have α -hydrogen atom
- B. due to large +I effect of alkyl group
- C. due to greater steric hindrance
- D. all of these

Answer: A



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230. Which of the following reactions shows acidic nature of alcohol ?



Answer: B



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231. Boiling point of alcohol is more than that of ether of corresponding molecular weight , because

- A. alcohol being more soluble in water
- B. ethers are non-polar solvent
- C. hydrogen bonding exist between alcohol
- D. none of these

Answer: C



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232. Use of methanol may causes

A. blindness and death due to its oxidation to CO_2

B. blindness and death due to HCOOH

C. deficiency of calcium due to formation of salt

D. disorder of blood hormones

Answer: B

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233. Which of the following compound does not react with Lucas reagent ?

A. $(CH_3)_3C - CHO$

B. $(CH_3)_3C - OH$

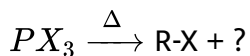
C. $(CH_3)_2CH - OH$

D. $CH_3 - OH$

Answer: A

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234. The final subsidiary product in the following reactions is , R-OH +



A. H_3PO_4

B. HX

C. H_3PO_4

D. HPO_4

Answer: A

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235. Which one of the following process is used to distinguish between the three types of alcohols?

A. Reduction

B. Hydrolysis

C. Oxidation

D. Hydrogenation

Answer: C



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236. Ketone is the first oxidative product of,

A. 1° alcohol

B. 3° alcohol

C. 2° alcohol

D. acid

Answer: C



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237. The compound which liberates H^2 gas with sodium metal is ,

A. aldehyde

B. ethanol

C. ether

D. ketone

Answer: B



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238. 1-propanol is converted into propene, which of the following agent is used ?

A. alc. KOH

B. dil. NaOH

C. dil.HCl

D. conc. H_2SO_4

Answer: D



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239. Optical isomer of molecular formula $C_4H_{10}O$ on α -elimination gives

- A. butanal
- B. 2-methyl propanal
- C. 2-butanone
- D. 2-methyl propene

Answer: C



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240. Which of the following is associated liquids?

- A. ROH

B. H_2O

C. RNH_2

D. All of these

Answer: D

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241. Methyl alcohol on oxidation with acidified $K_2Cr_2O_7$ gives

A. CH_3OH

B. $HCOOH$

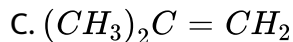
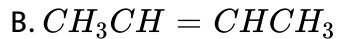
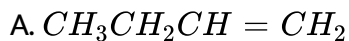
C. CH_3COCH_3

D. CH_3COOH

Answer: B

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242. 2-butanol on dehydration mainly gives,

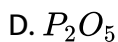
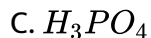
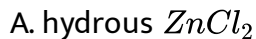


Answer: B



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243. 1-propanol can be converted into 1-chloro propane by HCl in the presence of catalyst,



Answer: B



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244. Oxidation means,

- A. addition of oxygen
- B. increase in oxidation state
- C. loss of electron
- D. all of these

Answer: D



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245. Which statement is not correct about the alcohols?

- A. Alcohols involves H-bonding

B. Alcohols evaporates quickly than water

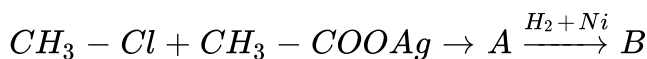
C. Alcohols of less number of carbon atoms are less soluble than more number of carbon atoms

D. All of these

Answer: C

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246. Product 'B' of the following reaction is



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

B. $CH_3 - CHO$ and $CH_3 - OH$

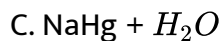
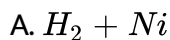
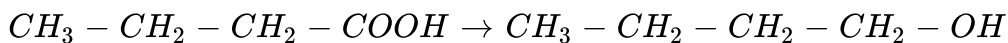
C. $CH_3 - CHO$ and $CH_3 - CHO$

D. $C_2H_5 - OH$ and $C_2H_5 - OH$

Answer: A

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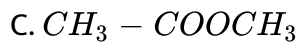
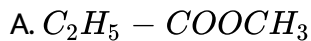
247. Find out correct reducing agent in following conversion.



Answer: D

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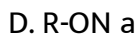
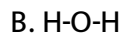
248. Compound A (ester) reacts with $LiAlH_4$ gives B and C. Compound B on oxidation gives acetic acid and compound C on oxidation gives formic acid. The compound 'A' is



Answer: C

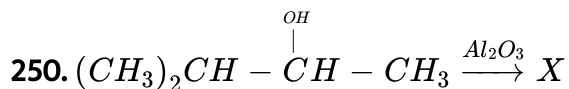
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249. Which of the following compound have covalent and ionic bond ?



Answer: D

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Give the IUPAC name of major 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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251. Which of the following is / are correct ?

- A. Absolute alcohol is 100 % ethanol

- B. The alcohol sold in the market for polishing is known as methylated spirit
- C. Ordinary ethanol is known as rectified spirit
- D. All of these

Answer: D

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252. Mixture of acetic acid and propionic acid is obtained from oxidation of

- A. $CH_3 - COCH_3$
- B. $CH_3 - COC_2H_5$
- C. $CH_3 - CH_2 - COCH_2 - CH_3$
- D. $CH_3 - CH_2 - CHO$

Answer: C

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

- A. $(CH_3)_3CCH_2 - OH$
- B. $(CH_3)_2COHCH_2 - CH_3$
- C. $(CH_3)_2CH - CHOH - CH_3$
- D. all of these

Answer: D

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254. The hydrogen bonding ability of 1° , 2° and 3° alcohols is of the order

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

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

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

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

Answer: B

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255. When 3-methylpentan-3-ol is heated with alumina. The main product formed is,

A. 2-methylpent-1-ene

B. 3-methylpent-2-ene

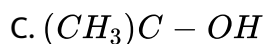
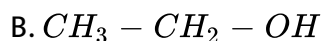
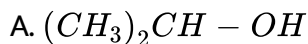
C. 2-methylbut-2-ene

D. 3-methylbut-2-ene

Answer: B

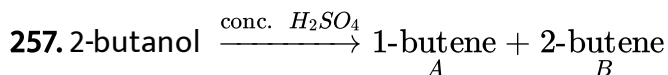
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256. An organic compound X reacts with sodium metal and evolve hydrogen gas, on oxidation of X by PCC give aldehyde. The formula of X could be



Answer: B

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Which are correct statements ?

A. A is Saytself product B is not

B. B is Saytself product A in not

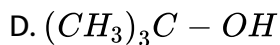
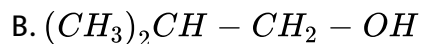
C. Either 'a' and 'b'

D. Neither

Answer: B

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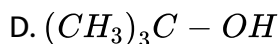
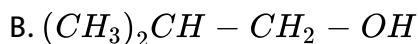
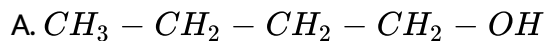
258. Which of the following is maximum basic ?



Answer: D

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259. The $C_4H_{10}O$ (alcohols) produces immediate turbidity with Lucas reagent the alcohol is



Answer: D



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260. Solubility of alcohol in water is due to

A. hydrophobic R-group

B. hydrophilic OH-group

C. hydrophobic OH-group

D. hydrophilic R-group

Answer: B

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261. Boiling point of ethanol is greater than isomeric ether is due to

- A. hydrogen bonds are much stronger than dipole-dipole attraction
- B. dipole-dipole attraction is much stronger than hydrogen bond
- C. ether has two hydrophobic group while alcohol has one
- D. ether has two hydrophilic group while alcohol has one

Answer: A

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262. Lucas test is used to distinguish between 1° , 2° and 3° alcohols. This shows that

A. R-OH behaves as base

B. greater the Pka value of alcohol, greater the reactivity of alcohol with HCl and thus sooner the formation of white turbidity

C. both are correct

D. none is correct

Answer: C

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263. The most suitable reagent for conversion of $R - CH_2 - OH \rightarrow R - CHO$ is

A. neutral $KMnO_4$

B. PCC

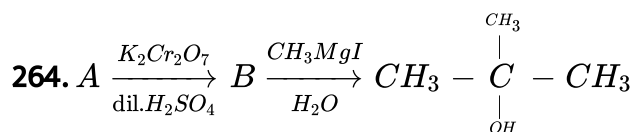
C. acidic $K_2Cr_2O_7$

D. CrO_3

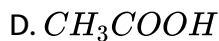
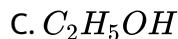
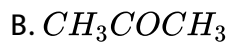
Answer: B



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The reactant A is



Answer: A



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265. For the reaction $C_2H_5OH + HX \xrightarrow{ZnX_2} C_2H_5X$.

The order of reactivity is

A. HBr gt HI gt HCl

B. HI gt HCl gt HBr

C. HI gt HBr gt HCl

D. HCl gt HBr gt HI

Answer: C



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266. Ethanol is converted into ethyl chloride by reacting with

A. $POCl_3$

B. $SOCl_2$

C. KCl

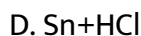
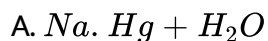
D. $NaCl$

Answer: B



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267. Which of following reducing agent is used to convert carboxylic acid into alcohol ?



Answer: B



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268. Primary, secondary and tertiary alcohols may be distinguished by employing

- A. Hoffmann's test
- B. Fehling solution. test
- C. Lucas test
- D. None of the above

Answer: C

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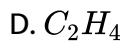
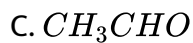
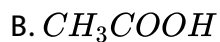
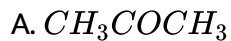
269. Oxidation of ethanol by chromic acid forms

- A. ethanal
- B. methanol
- C. 2-propanone
- D. ethanoic acid

Answer: D

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270. conc. H_2SO_4 reacts with C_2H_5OH at 443K to form



Answer: D



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271. Distinction between primary, secondary and tertiary alcohol is done by

A. oxidation method

B. Lucas test

C. silver mirror test

D. both 'a' and 'b'

Answer: D

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272. Low molecular weight alcohols are

A. soluble in water

B. soluble on heating

C. insoluble in water

D. insoluble in all solvent

Answer: A

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273. Isopropyl alcohol on oxidation forms

A. acetone

B. ether

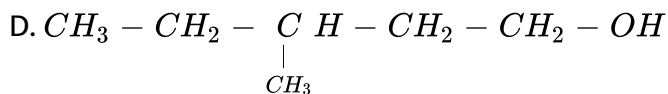
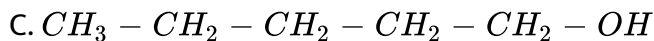
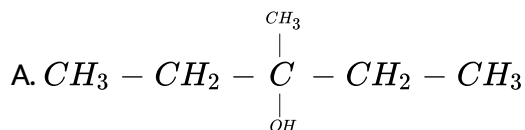
C. ethylene

D. acetaldehyde

Answer: A

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274. Among the following compounds which can be dehydrated very easily is



Answer: A



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275. Which of the following is not characteristic of alcohols?

- A. Lower alcohols are stronger and have bitter taste
- B. Higher alcohols are stronger and have bitter taste
- C. The boiling points of alcohols increase with increasing molecular mass
- D. The lower alcohol are soluble in water

Answer: B



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276. In reaction of alcohols with alkali metal which of the following alcohols will react fastest

A. secondary

B. tertiary

C. primary

D. all equal

Answer: C



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277. The -OH group of methyl alcohol cannot be replaced by chlorine by the action of

A. chlorine

B. hydrogen chloride

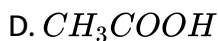
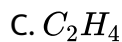
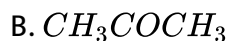
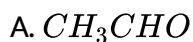
C. phosphorus trichloride

D. phosphorus pentachloride

Answer: A

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278. When ethanol is passed over red hot copper at 573K, the product formed is



Answer: A

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279. A mixture of methanol vapours and air is passed over heated copper.

The products are

A. carbon monoxide and hydrogen

B. formaldehyde and H_2 gas .

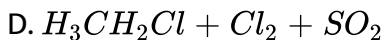
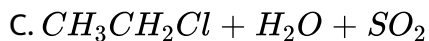
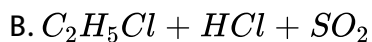
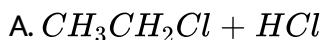
C. formic acid and water vapour

D. carbon monoxide and water vapour

Answer: B

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280. When ethyl alcohol reacts with thionyl chloride in the presence of pyridine, the product obtained is



Answer: B

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281. Primary alcohols on dehydration give

- A. alkenes
- B. ether
- C. alkane
- D. ester

Answer: A



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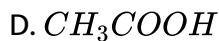
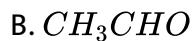
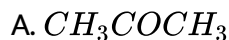
282. Primary and secondary alcohols on action of reduced copper give

- A. aldehydes and ketones respectively
- B. ketones and aldehydes respectively
- C. only aldehydes
- D. only ketones

Answer: A

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283. Methyl alcohol on oxidation with acidified $K_2Cr_2O_7$ gives



Answer: C

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284. Ethyl alcohol on oxidation with $K_2Cr_2O_7$ gives

A. acetic acid

B. acetaldehyde

C. formaldehyde

D. formic acid

Answer: A



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285. On heating ethanol with excess of conc. H_2SO_4 at 443 K, product obtained is

A. ethene

B. ethane

C. ethyne

D. ethoxy ethane

Answer: A



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286. When 3, 3-dimethyl 2-butanol is heated with H_2SO_4 the major product obtained is

- A. 2, 3-dimethylbut-1-ene
- B. 3, 3-dimethylbut-1-ene
- C. 2, 3-dimethylbut -2-ene
- D. cis and trans isomers of 2, 3-dimethyl but-2-ene

Answer: C

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287. Which of the following will give benzoic acid on oxidation?

- A. Benzyl alcohol
- B. Benzaldehyde
- C. Acetophenone

D. All of these

Answer: D

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288. n-propyl alcohol and isopropyl alcohol can be chemically distinguished by which reagent

A. PCl_5

B. reduction

C. oxidation with potassium dichromate

D. PCl_3

Answer: C

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289. Which of the following pairs of alcohols are distinguished by oxidation test, Lucas test and haloform test ?

- A. Methanol and ethanol
- B. Ethanol and 3-pentanol
- C. Ethanol and 2-propanol
- D. 1-propanol and 3-pentanol

Answer: B



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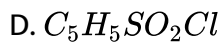
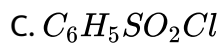
290. Consumption of alcohol by vehicle drivers is detected by

- A. blow of mouth air in test tube containing acidic $K_2Cr_2O_7$
- B. blow of mouth air in test tube containing alcoholic KOH
- C. blow of mouth air in test tube containing Cu_2O
- D. blow of mouth air in test tube containing Schiff's reagent

Answer: A

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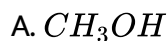
291. Which of the following is pyridinium chlorochromate ?

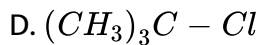
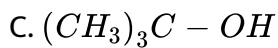


Answer: B

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292. Separation of two layers are seen when Lucas reagent is treated with





Answer: C

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293. Aluminium metal reacts with alcohol gives



Answer: C

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294. When six mole of alcohol reacts with aluminium metal. How many gram of hydrogen is liberated?

A. 2

B. 4

C. 5

D. 6

Answer: D



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295. Ethyl alcohol is reacted with acetyl chloride gives

A. ethyl acetate

B. ethyl formate

C. ethyl propanoate

D. ethyl methyl ketone

Answer: A



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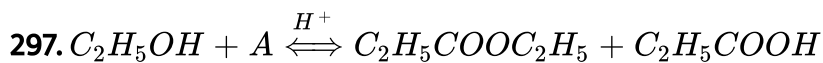
296. Methyl acetate is formed from methyl alcohol and what?

- A. Acetic acid
- B. Acetic unhydride
- C. Acetyl chloride
- D. All of these

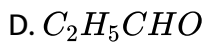
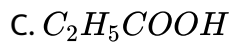
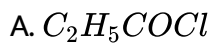
Answer: D



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The compound 'A' is



Answer: B

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298. An ether is



Answer: A

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299. The monovalent RO group is called

- A. alkyl group
- B. alkoxy group
- C. alkenyl group
- D. all of these

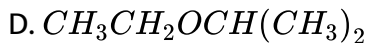
Answer: B



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300. Which of the following is a simple ether ?

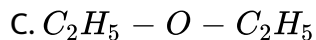
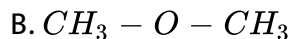
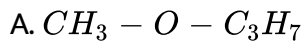
- A. $CH_3OC_2H_5$
- B. $C_2H_5 - OC_2H_5$
- C. $C_2H_5OC_3H_7$



Answer: B

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301. Which of the following is an unsymmetrical ether?



D. All of these

Answer: A

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302. 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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303. In R '-O-R, the R' is a higher alkyl group, it is come from

A. alkane

B. alcohol

C. both 'a' and 'b'

D. not predicted

Answer: A

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304. The IUPAC name of $C_2H_5OCH_2CH(CH_3)_2$ is ,

- A. 3-ethoxy -2-methylpropane
- B. 1-ethoxy -2-methylpropane
- C. 1-ethoxybutane
- D. 2-ethoxybutane

Answer: B



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305. IUPAC name of the following compound $(CH_3)_2CHOC(CH_3)_3$ is ,

- A. t-butylisopropylether
- B. 2-(2-propoxy) -2-methylpropane
- C. 2-methyl -1-ethoxy- 2-propane

D. 1-methyl- 2-propoxy- 2-propane

Answer: B

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306. IUPAC name of ether is

A. alkyl alkanoate

B. alkoxy alkane

C. alkanamine

D. alkyl acetate

Answer: B

 [View Text Solution](#)

307. IUPAC name of $CH_3 - O - C_2H_5$ is

- A. ethoxymethane
- B. methoxymethane
- C. methoxyethane
- D. ethylmethylether

Answer: C

 [View Text Solution](#)

308. IUPAC name of methyl n-propyl ether is

- A. propoxymethyl
- B. 2-methoxy propane
- C. 1-methoxypropane
- D. methylpropaonate

Answer: C

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

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

Answer: B



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310. What is IUPAC name of compound when divalent oxygen atom is attached to n-propyl group and iso-propyl group?

- A. Propoxy- 2-propane
- B. Propoxyethane
- C. 1- (2-propoxy) propane

D. 1-ethoxybutane

Answer: C

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311. Ethers have angular V-shaped geometry like

A. NH_3

B. H_2O

C. CH_4

D. CH_3^+

Answer: B

 [View Text Solution](#)

312. The IUPAC name of $CH_3OCH(CH_3)_2$ is ,

A. 2-methoxypropane

B. 2-epoxypropane

C. 2-methoxypropane

D. 1-epoxypropane

Answer: C

 [View Text Solution](#)

313. Ethers are

A. Lewis acid

B. acid

C. Lewis base

D. base

Answer: C

 [View Text Solution](#)

314. IUPAC name of $CH_3 - O - C(C_2H_5)_3$ is

- A. 3-methoxy -2-ethylpentane
- B. 2-methoxy -2-ethylpentane
- C. 3-methoxy- 3-ethylpentane
- D. 2-methoxy -3-ethylpentane

Answer: C



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315. How many metamers are possible for molecular formula $C_4H_{10}O$?

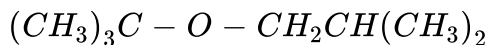
- A. 3
- B. 7
- C. 5

D. 2

Answer: A

 [View Text Solution](#)

316. IUPAC name of following compound is



A. 2-(2-methyl-1-propoxy)-2-methylpropane

B. 1-(2-methyl-2-propoxy)-2-methylpropane

C. 1-(2-propoxy)-2-methylpropane

D. 2-(2-propoxy)-2-methylpropane

Answer: B

 [View Text Solution](#)

317. IUPAC name of ethyl t-butyl ether is

- A. 2-ethoxypropane
- B. 2-ethoxy -2-methylpropane
- C. 2-ethoxy -2, 2-dimethylethane
- D. 2-ethoxy -1-methylpropane

Answer: B



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318. The compounds $CH_3 - O - C_3H_7$ and $C_2H_5 - O - C_2H_5$ exhibit

- A. metamerism
- B. chain isomerism
- C. optical isomerism
- D. cis-trans isomerism

Answer: A



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319. Molecular formula $C_4H_{10}O$ has isomeric ethers ,

A. 4

B. 3

C. 7

D. 5

Answer: B



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320. The compound which is not isomeric with diethyl ether is

A. butan-1-ol

B. 2-methyl propan-2-ol

C. butanone

D. n-propyl methyl ether

Answer: C

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321. Diethyl ether exhibits metamerism with

A. $CH_3OCH_2CH_2CH_3$

B. $CH_3OCH(CH_3)_2$

C. both 'a' and 'b'

D. $CH_3COC_2H_5$

Answer: C

 [View Text Solution](#)

322. Ethers are isomeric with

- A. aldehydes
- B. alcohols
- C. acids
- D. ketones

Answer: B

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323. $CH_3CH_2CH_2OH$ is functional isomer of

- A. ethyl methyl ether
- B. ethyl n-propyl ether
- C. methyl n-propyl ether
- D. 2-propanol

Answer: A



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324. The compound which is functional isomer of diethyl ether is,

A. 1-methoxypropane

B. butan-1-ol

C. 2-methoxypropane

D. both 'a' and 'c'

Answer: B



[View Text Solution](#)

325. The compound is not isomeric with diethyl ether

A. butan-1-ol

B. propan-2-ol

C. 2-methyl -2-propanol

D. butan-2-ol

Answer: B



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326. 1-methoxy propane and 2-methoxy propane are

A. position isomers

B. chain isomers

C. metamers

D. functional isomers

Answer: C



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327. Dimethyl ether is associated with which one of the isomer?

- A. Ethanol
- B. Methanol
- C. Formic acid
- D. Methyl formate

Answer: A



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328. Molecular formula $C_4H_{10}O$ exhibits

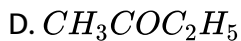
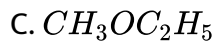
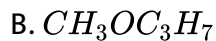
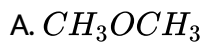
- A. chain isomerism
- B. position isomerism
- C. metamerism
- D. all of these

Answer: D



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329. Which of the following compound shows metamerism ?



Answer: B



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330. Molecular formula C_2H_6O shows

A. functional isomerism

B. metamerism

C. position isomerism

D. optical isomerism

Answer: A

 [View Text Solution](#)

331. Diethyl ether can be distinguished from butan-1-ol by

A. aq. $FeCl_3$

B. Na metal

C. Tollens reagent

D. Fehling reagent

Answer: B

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332. $C_6H_5 - O - CH_3$ can be named as

- A. phenoxy methane
- B. phenetole
- C. methoxy phenyl
- D. methoxy benzene

Answer: D

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333. Ethers and alcohols are

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

Answer: B



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334. Which isomerism is not possible in ethers ?

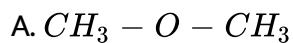
- A. Tautomerism
- B. Chain isomerism
- C. Metamerism
- D. Position isomerism

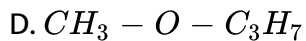
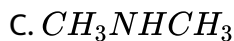
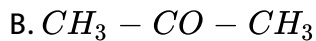
Answer: A



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335. Which of the following compound shows metamerism ?





Answer: D

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336. Metamerism is advance type of

A. optical isomerism

B. geometrical isomerism

C. chain and position isomerism

D. only chain isomerism

Answer: C

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337. Geometry of ether is

- A. linear
- B. pyramidal
- C. trigonal planar
- D. octahedral

Answer: B



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338. Metamerism is possible in

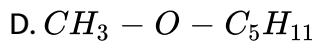
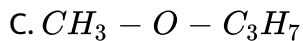
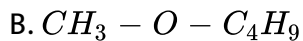
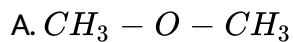
- A. same polyvalent functional group
- B. same monovalent functional group
- C. different polyvalent functional group
- D. different monovalent functional group

Answer: A



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339. Which of the following compound does not show metamerism?



Answer: A



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340. Following compound can be named as $CH_3 - O - (CH_2)_4CH_3$

A. 3-methoxypentane

B. 2-methoxypentane

C. 4-methoxypentane

D. 1-methoxypentane

Answer: D

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341. How many metamers are possible for molecular formula $C_5H_{12}O$

A. 4

B. 6

C. 8

D. 10

Answer: B

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342. How many ethers are possible for formula $C_5H_{12}O$

A. 12

B. 14

C. 6

D. 8

Answer: D



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343. Hydride of ether is

A. aldehyde

B. alcohol

C. ketone

D. carboxylic acid

Answer: B



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344. The reaction of CH_3CH_2Br and $(CH_3)_3CONa$ to form ether is called

- A. Williamson reaction
- B. Wurtz reaction
- C. Cannizzaros reaction
- D. Hoffmans reaction

Answer: A



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345. Which of the following reaction does not form ether ?

A. $RX + aq. KOH$

B. $RX + RONa$

C. $CH_2N_2 + ROH$

D. $ROH + H_2SO_4$ at 413 K

Answer: A

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346. Reaction between sodium ethoxide and bromoethane forms

A. ethyl methyl ether

B. diethyl ether

C. dimethyl ether

D. acetic acid

Answer: B

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347. Williamson's reaction is

- A. SN^1 reaction of R-X
- B. SN^2 reaction of R-X
- C. SN^2 reaction of alkoxide
- D. dehydration of R-X

Answer: B



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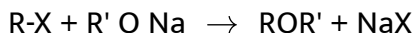
348. In Williamson reaction intermediate formed is

- A. carbocation
- B. free radical
- C. carbanion

Answer: D

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349. Select incorrect statement about following reaction of ether synthesis :



- A. It follows $S_N 2$ mechanism
- B. Alkyl halide (RX) should be 2° or 3° while alkoxide ($RO^- Na^+$) should be 1°
- C. Alkyl halide should be 1° while alkoxide should be 2° or 3° .
- D. 2° and 3° alkyl halide may undergo E_2 elimination in the presence of a strong base to form alkenes.

Answer: B



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350. Catalytic dehydration of ethanol at 413 K gives

- A. ethene
- B. ethoxy ethane
- C. ethane
- D. epoxy ethane

Answer: B



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351. Preparation of ether from ethanol by continuous etherification process is

- A. SN^1 reaction
- B. SN^2 reaction

C. E^1 reaction

D. E^2 reaction

Answer: B



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352. Williamson's reaction of 3° alkyl halide is

A. SN^1 reaction

B. Elimination reaction

C. SN^2 reaction

D. Reduction

Answer: B



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353. Density of ether is

- A. higher than water
- B. equal to water
- C. lower than water
- D. can't be predicted

Answer: C



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354. Sodium phenoxide is reacted with ethyl chloride gives

- A. o-ethyl sodium phenoxide
- B. p-ethyl sodium phenoxide
- C. ethoxy benzene
- D. m-ethyl sodium phenoxide

Answer: C



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355. Methoxy benzene is prepared from $CH_3 - Cl$ and what?

- A. phenol
- B. sodium benzoate
- C. sodium phenoxide
- D. benzyl chloride

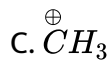
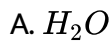
Answer: C



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356. Which is the leaving group in the following reaction ?





Answer: B

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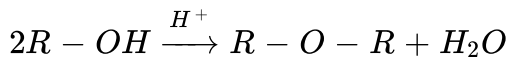
357. In the preparation of ether, one of the reactant is R-X another is



Answer: A

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358. Select correct statement(s) about following reaction :



- A. It is an example of S_N reaction in which protonated alcohol is the substrate and second molecule of alcohol is the nucleophile.
- B. It is intermolecular dehydration of alcohols
- C. This reaction can be S_N2 if alcohol is 1° .
- D. All of the above statements are correct.

Answer: D



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359. Continuous etherification process based upon

- A. oxidation
- B. intermolecular dehydration

C. intramolecular dehydration

D. reduction

Answer: B

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360. In continuous etherification process 1st step is

A. formation of carbocation

B. protonation of alcohol

C. loss of proton from oxocation

D. cleavage of O-H bond in alcohol

Answer: B

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361. 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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362. When ethyl hydrogen sulphate is heated with ethanol at 413 K, the product formed is

A. ethyne

B. ethene

C. diethyl ether

D. diethyl sulphate

Answer: C

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363. Diethyl ether is conveniently prepared in laboratory from

A. diazomethane

B. continuous etherification process

C. Williamson's synthesis

D. all of these

Answer: B

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364. In Williamson's synthesis t-alkyl halide can not be used for preparation of alkyl t-butyl ether, because

- A. it is difficult to remove halogen atom
- B. the reaction become reversible
- C. it is not reactive
- D. it readily decompose to give olefin

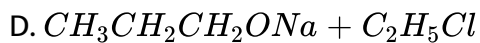
Answer: D



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365. Which of the following pair is used to prepare 2-ethoxy 2-methyl propane ?

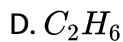
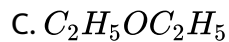
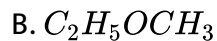
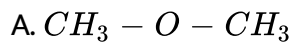
- A. $(CH_3)_3CCl + C_2H_5ONa$
- B. $(CH_3)_3CONa + C_2H_5Cl$
- C. $CH_3CH_2ONa + C_2H_5Cl$



Answer: B

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366. Ethyl iodide on treatment with sodium methoxide gives



Answer: B

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367. In the preparation of aromatic ether one of the reactant is sodium phenoxide, another is

- A. R-OH
- B. R-Cl
- C. R-CHO
- D. R-COONa

Answer: B



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368. In Williamson's synthesis

- A. sodium alkoxide is treated with alkyl halide
- B. sodium metal is treated with alkyl halide
- C. an excess of alcohol is treated with conc. H_2SO_4 at 413 K
- D. vapours of alcohol are passed over heated Al_2O_3 at 633 K

Answer: A



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369. Excess of ethanol is heated with conc. H_2SO_4 at 413 K. the compound that distills is

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

Answer: B



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370. 1-butanol is reacted with diazomethane to give,

- A. 1-methoxy butane
- B. 2-methoxy butane
- C. 1-ethoxy butane
- D. 2-ethoxy butane

Answer: A

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371. Which of the following statement(s) is/are true about Williamsons synthesis ?

- A. It is desirable to use primary R-X
- B. This method is particularly used for preparation of mixed ether
- C. It is best to use the alkoxide of 2° and 3° alcohols
- D. All of these

Answer: D

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372. 2-ethoxy propane is effectively prepared from

- A. isobutyl iodine
- B. isopropyl iodine
- C. ethyl iodine
- D. n-propyl iodine

Answer: C

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373. The reaction between $C_2H_5ONa + C_2H_5I$ to give $C_2H_5OC_2H_5$ is called

- A. Wurtz reaction
- B. Kobles synthesis

C. Williamson's synthesis

D. Hoffman reaction

Answer: C



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374. The reaction of alkali alcoholate and monohalo alkane is called as,

A. Wurtz reaction

B. Cannizzaros reaction

C. Williamsons synthesis

D. Aldol condensation

Answer: C



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375. Williamson's synthesis is used to prepare

A. diethyl ether and methanol

B. amine

C. ethanol

D. ethanal

Answer: A



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376. The intermediate product obtained during continuous etherification process is,

A. alkyl hydrogen sulphite

B. alkyl hydrogen sulphate

C. alkyl sulphate

D. alkyl sulphite

Answer: B

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377. Reaction of t-butyl bromide with sodium methoxide produces

- A. sodium tertiary butoxide
- B. tertiary butyl methyl ether
- C. isobutane
- D. isobutylene

Answer: D

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378. Excess of isopropyl alcohol is heated with conc. H_2SO_4 at 413 K, gives



C. both 'a' and 'b'

D. none of these

Answer: B

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379. From williamsons synthesis, which one of the following is most desirable to prepare ether?

A. 3° R-X and alkoxide of 1° alcohol

B. 3° R-X and alkoxide of 2° alcohol

C. 2° R-X and alkoxide of 1° alcohol

D. 1° R-X and alkoxide of 3° alcohol

Answer: D

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380. Methoxy ethane is obtained by C_2H_5OH and what ?

- A. CH_3Cl
- B. CH_3ONa
- C. CH_2N_2
- D. CH_2Cl_2

Answer: C

 [View Text Solution](#)

381. Intermolecular dehydration of alcohol gives

- A. Alkenes
- B. Ethers
- C. Alkynes

D. Aldehydes

Answer: B



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382. In the formation of ether, one of the compound is alcohol another is

A. R-O Na

B. CH_2N_2

C. R-O Ag

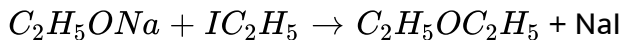
D. R-OK

Answer: B



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383. The reaction given below is known as



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

Answer: C



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384. Ether is prepared by

- A. Williamson's synthesis
- B. Wurtz's synthesis
- C. Fridel-Craft's reaction
- D. Hoffman bromide reaction

Answer: A



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385. When an alkyl halide is allowed to react with a sodium alkoxide the product most likely ?

A. An aldehyde

B. A ketone

C. An ether

D. A carboxylic acid

Answer: C



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386. When ethyl methyl ether is reacted with cold conc. HI gives ethanol and methyl iodine. The reaction proceeding through

A. SN^1

B. SN^2

C. E^1

D. E^2

Answer: B



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387. When t-butyl methyl ether is reacted with cold conc. HI to gives t-butyl iodine and methyl alcohol. The reaction proceeding through

A. SN^1

B. SN^2

C. E^1

D. E^2

Answer: A

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388. Halogenation of anisole is carried in the presence of catalyst

A. $FeCl_3$

B. $AlCl_3$

C. BF_3

D. CH_3COOH

Answer: D

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389. Bromination of anisole gives major product

A. o-bromoanisole

B. p-bromoanisole

C. m-bromoanisole

D. di-orthobromoanisole

Answer: B

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390. Nitration of phenyl alkyl ether gives

A. o-nitro alkyl phenyl ether

B. p-nitro alkyl phenyl ether

C. mixture of ortho and para nitro phenyl alkyl ether

D. m-nitro alkyl phenyl ether

Answer: C

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391. Which of the following ether produces methyl alcohol when reacts with cold HBr

- A. 2-Methyl 2-methoxy propane
- B. 2-methoxy propane
- C. 1-methoxy propane
- D. methoxy ethane

Answer: A



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392. Two mole of alkyl iodide is formed when ether react with

- A. Hot I_2
- B. Cold HI
- C. Cold I_2
- D. Hot HI

Answer: D



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393. C-O bond in ether is not cleaved by

A. HCl

B. Dil. H_2SO_4

C. HBr

D. HI

Answer: A



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394. Acidic hydrolysis of ether gives

A. Two mole of aldehyde

- B. One mole of alcohol
- C. One mole of aldehyde
- D. Two mole of alcohol

Answer: D

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395. Reaction of dimethyl ether with cold HI is

- A. E^2 reaction
- B. SN^1 reaction
- C. E^1 reaction
- D. SN^2 reaction

Answer: D

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396. Molecular formula(A) $C_4H_{10}O$ on acid hydrolysis gives two mole of same alcohol.The compound A is

- A. 2-methoxy propane
- B. 1-methoxy propane
- C. t-butyl alcohol
- D. Diethyl ether

Answer: D



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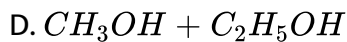
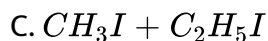
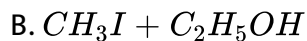
397. Ethers are reacted with cold HI gives

- A. One mole alcohol and one mole of alkyl iodide
- B. Two mole alcohol
- C. Two mole of alkyl iodide
- D. Two mole alcohol and one mole of alkyl iodide

Answer: A

 [View Text Solution](#)

398. The reaction $CH_3OC_2H_5$ with cold HI gives



Answer: B

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399. Diethyl ether on heating with conc. HI gives two moles of

A. ethanol

B. iodoform

C. ethyl iodide

D. methyl iodide.

Answer: C

 [View Text Solution](#)

400. Natalite is a mixture of,

A. diethyl ether and methanol

B. diethyl ether and ethanol

C. dimethyl ether and methanol

D. dimethyl ether and ethanol

Answer: B

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401. Ethers are inactive because they do not contain

- A. active atom
- B. active group
- C. multiple bond
- D. all of these

Answer: D



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402. Diethyl ether with cold HI yields,

- A. C_2H_5I
- B. C_2H_5OH
- C. C_2H_5I and C_2H_5OH
- D. none of these

Answer: C

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403. An hypothetical compound does not react with sodium metal. Which type of compound behave like this?

- A. Alcohol
- B. Phenols
- C. Ethers
- D. Acid

Answer: C

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404. The ethers heated with excess of HI gives three different products. The ether will be,

- A. simple
- B. mixed
- C. either simple or mixed
- D. unpredictable in nature

Answer: B

 [View Text Solution](#)

405. The compound which is mixed with alcohol to get a substitute for petrol is

- A. ethanol
- B. diethyl ether
- C. acetaldehyde
- D. propanol

Answer: B

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406. Diethyl ether does not react with

A. $\text{dil. } H_2SO_4$

B. HI

C. CH_3COOH

D. PCl_5

Answer: C

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407. Diethyl ether can be regarded as unhydride of

A. $CH_3 - OH$

B. $C_2H_5 - OH$

C. $C_2H_5 - COOH$

D. CH_3COOH

Answer: B



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408. Dimethyl ether can be decomposed by heating with

A. H_2O

B. NaOH

C. $KMnO_4$

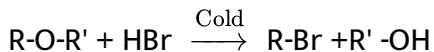
D. HI

Answer: D



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409. Following reaction is of the type



If R' is 3° alkyl group and R is 1° alkyl group, then

- A. $S_N 1$ with tertiary alkyl group
- B. $S_N 2$ with tertiary alkyl group
- C. both of the above types
- D. none of the above types

Answer: C



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410. The mixture of ethanol and H_2SO_4 is distilled in distillation flask at 140°C . The flask would then contain

- A. H_2SO_4 and $\text{C}_2\text{H}_5 - \text{O} - \text{C}_2\text{H}_5$ only
- B. H_2O , H_2SO_4 and $\text{C}_2\text{H}_5\text{OSO}_3\text{H}$ only

C. H_2O , $C_2H_5OSO_3H$, C_2H_5

D. $C_2H_5 - O - C_2H_5$, $C_2H_5OSO_3H$, H_2SO_4 and H_2O

Answer: D

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411. Methoxy ethane does not react with

A. HI

B. HBr

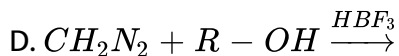
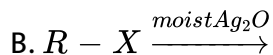
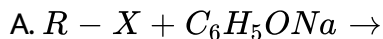
C. dil. H_2SO_4

D. Na

Answer: D

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412. Which of the following will not form ether ?



Answer: B



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413. Anisole is reacted with cold HI gives

A. Benzyl iodide and methanol

B. Phenol and methanol

C. Iodobenzene and iodomethane

D. Phenol and iodomethane

Answer: D



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414. Reaction of $CH_3OCH_2CH_3$ is maximum with

- A. HF
- B. HCl
- C. HBr
- D. HI

Answer: D



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415. Ethyl phenyl ether is reacted with cold conc. HBr gives

- A. phenol and ethane

- B. bromobenzene and ethane
- C. bromobenzene and bromoethane
- D. phenol and bromoethane

Answer: D

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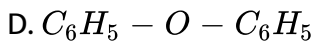
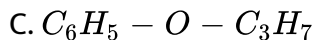
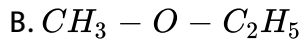
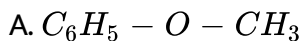
416. Anisole on treatment with Br_2 / CS_2 gives

- A. bromobenzene
- B. methyl- 2-bromophenyl ether
- C. o- and p- bromoanisole
- D. phenol

Answer: C

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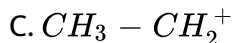
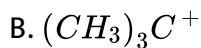
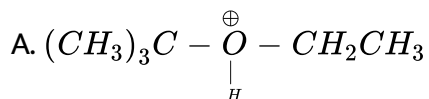
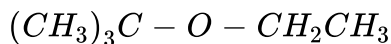
417. Which of the following is not cleaved by HI even at 525 K



Answer: D

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418. Which is the most stable ion is formed in the protonation of

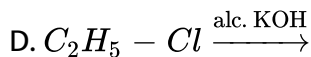
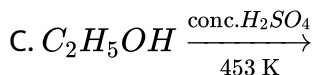
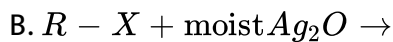
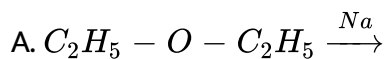


D. None of these

Answer: B

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419. Which of the following reaction is not possible



Answer: A

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420. Methyl phenyl ether can be obtained by reacting

A. phenolate ions and methyl iodide

B. methoxide ion and bromobenzene

C. methanol and phenol

D. bromobenzene and methyl bromide

Answer: A

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421. Formation ether from ethanol based on

A. dehydration

B. hydrogenation

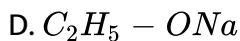
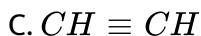
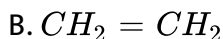
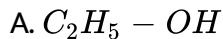
C. dehydrogenation

D. hydration

Answer: A

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422. Compound 'A' react with $CH_3 - Cl$ gives B. B react with dil. H_2SO_4 gives ethyl alcohol and $CH_3 - OH$. The compound A is

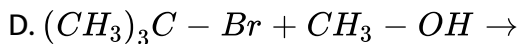
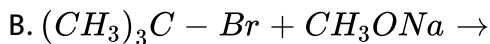
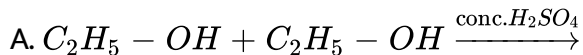


Answer: D



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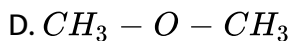
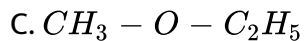
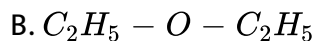
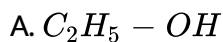
423. In which of the following reaction product is t-butyl methyl ether



Answer: C

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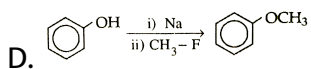
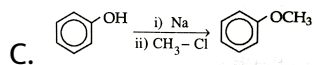
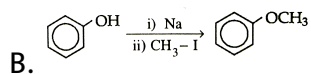
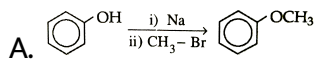
424. Which of the following compound when heated with HI gives two mole of different alkyl iodide?



Answer: C

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425. Which of the following will gives good yield of ether?



Answer: B



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426. Ethers can be prepared by

- (1) heating alkyl halide with R-OH
- (2) boiling alkyl halide with alc.KOH
- (3) heating alkyl halide with sodium alkoxide
- (4) reacting alcohol with diazomethane

A. 2,3,4

B. 1,2,3

C. 3,4

D. 1,2

Answer: C



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427. What is the function of diethyl ether in Grignards reagent preparation

(1) to act as a catalyst

(2) to act as a solvent

(3) to provide lone pair electron to co-ordination

(4) to act as an acid

A. 1, 2

B. 2, 3

C. 3, 4

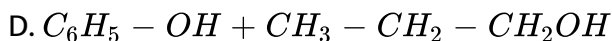
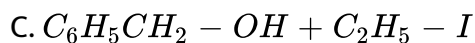
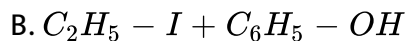
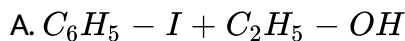
D. 2, 4

Answer: B



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428. Phenetole react with cold HI gives



Answer: B



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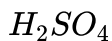
429. Select the incorrect statement among the following

A. C-O-C bond angle in ether is 110°

B. ethoxy ethane is reacted with excess of HI gives ethyl iodide

C. ethers and alcohols are functional isomers

D. ethers are Lewis base hence do not react with Bronsted acid like



Answer: D



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430. Which of the following statement about ethers is/are incorrect ?

- (1) Ethers, are very reactive
- (2) Ethers are weakly acidic
- (3) Ethers are Lewis base
- (4) Ether form stable complex with Lewis acid

A. 1, 2, 3

B. 1,2

C. 2, 3, 4

D. 2, 4

Answer: B



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431. $CH_3 - O - C(CH_3)_3$ on reaction with dil. H_2SO_4 under pressure gives (A) and (B). These are reacted with cold HI gives.

The compound A and B are respectively

- A. $(CH_3)_3C - I$ and $CH_3 - I$
- B. $(CH_3)_3C - OH$ and $CH_3 - I$
- C. $(CH_3)_3C - I$ and $CH_3 - OH$
- D. $(CH_3)_3C - OH$ and $CH_3 - OH$

Answer: A



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432. Conversion of alcohol to ether in the presence of conc. H_2SO_4 is an example of

A. SN^1 reaction

B. SN^2 reaction

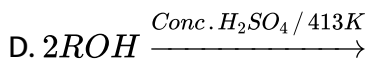
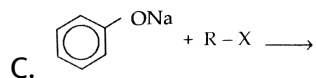
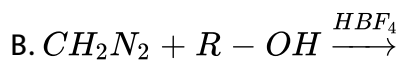
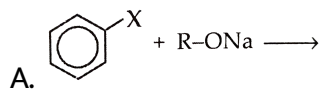
C. E^1 reaction

D. E^2 reaction

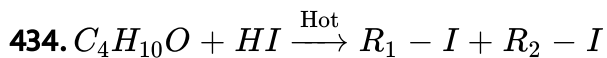
Answer: B

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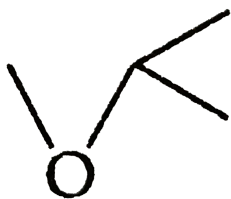
433. Which of the following is not useful for the synthesis of ether ?



Answer: A



$R_1 - I$ and $R_2 - I$ on alkaline hydrolysis gives alcohols A and B respectively. The compound A and B gives haloform test. The original compound is



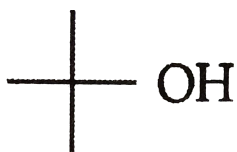
A.



B.



C.



D.

Answer: B



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435. Which of the following can not be made by Williamson's reaction ?

A. ethoxyethane

B. methoxyethane

C. 1-methoxypropane

D. 2-(1, 1-dimethylethoxy)propane

Answer: D



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436. Some statements are given below about ethers,

(1.) oxygen atom is sp^3 -hybridised

(2.) they are liquids at room temperature

(3). they have higher boiling point than alcohols

(4.) they are very active

Among the above, correct statement(s) is/are

A. only 1

B. only 3 and 4

C. only 1 and 2

D. all of these

Answer: A



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437. Which one of the following is incorrect about dimethyl ether ?

A. It has boiling point lower than alcohol

B. It is symmetrical ether

C. Its boiling point is more than ethanol

D. On treating with hot HI give single product

Answer: C

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438. Diethyl ether finds its use in medicine as

A. anaesthetic

B. antiseptic

C. hypnotic

D. pain killer

Answer: A

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439. Ethers form co-ordination complexes with

A. BF_3

B. $AlCl_3$

C. $ZnCl_2$

D. all of these

Answer: D

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440. Ethers on hydrolysis yield

A. ketone

B. acid

C. alcohol

D. aldehyde

Answer: C

 [View Text Solution](#)

441. Ethers are basic in nature owing to the presence of

- A. unshared electron pairs on oxygen
- B. alkyl group
- C. turn blue litmus red
- D. all of these

Answer: A



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442. Ethers with conc. HI at low temperature form

- A. alkyl iodide
- B. alcohol
- C. Both a and b

D. oxonium salt

Answer: C

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443. When ethyl isopropyl ether is reacted with HI in cold gives,

A. C_2H_5I and $(CH_3)_2CHOH$

B. C_2H_5I and $(CH_3)_2CHI$

C. C_2H_5OH and $(CH_3)_2CHI$

D. C_2H_5OH and $(CH_3)_2CHOH$

Answer: A

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444. Some statements are given below about ethers,

(1) with strong acid, forms oxonium salt

(2) mixture of diethyl ether and ethanol called as natalite

(3) t-butyl halide and sodium ethoxide give ethyl t-butyl ether

(4) these are acids

Among the above, false statement(s) is/are

A. only 1 and 3

B. only 2 and 4

C. only 3 and 4

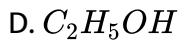
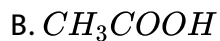
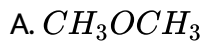
D. only 4

Answer: C



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445. The compound that does not react with sodium is



Answer: A

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446. Which of the following ether will give two successive members of homologous series, on acid hydrolysis ?

A. Diethyl ether

B. Dimethyl ether

C. Ethyl methyl ether

D. Methyl n-propyl ether

Answer: C

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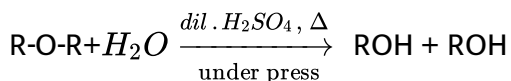
447. The reaction of ether with HI is preferred than HBr because

- A. HI is a stronger acid than HBr
- B. HI gives a higher concentration of oxonium ion
- C. I^- is a better nucleophile in SN^2 reaction than the Br^- ion
- D. all of these

Answer: D

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448. Find out process involved in the following reaction,



- A. hydrolysis
- B. oxidation

C. hydration

D. reduction

Answer: A



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449. The central oxygen atom in ether is

A. sp^2 -hybridised

B. sp^3 -hybridised

C. sp-hybridised

D. dsp^2 -hybridised

Answer: B



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450. Which of the following statements is false in case of ethoxy ethane ?

- A. It is inflammable
- B. It is simple ether
- C. It react with Na metal
- D. It is used as anaesthetic

Answer: C



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451. Ether does not react with,

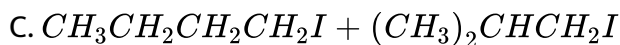
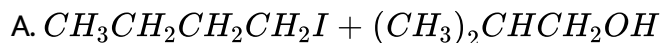
- A. sodium metal
- B. sodium hydroxide
- C. phosphorus trichloride
- D. all of these

Answer: D



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452. Isobutyl n-butyl ether is reacted with cold conc. HI gives,

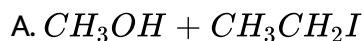


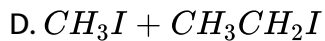
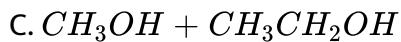
Answer: B



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453. The reaction of $CH_3OCH_2CH_3$ with hot excess HI gives





Answer: D

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454. Ethers are mainly used as,

A. solvent

B. cooling agent

C. anaesthetic

D. substitute of petrol

Answer: A

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455. A temperature of -110°C can be obtained by using ,

- A. ether and CO_2
- B. ether and solid CO_2
- C. acetone and CO_2
- D. acetone and solid CO_2

Answer: B



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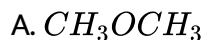
456. The cleavage of an ethyl methyl ether with cold hydrogen iodide will give

- A. a molecule each of an methyl iodide and water
- B. a molecule each of an ethyl iodide and water
- C. a molecule each of ethanol and an methyl iodide
- D. a molecule each of an ethyl iodide, methyl iodide and water

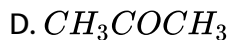
Answer: C

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457. Which of the following is a gas at room temperature?



C. both 'a' and 'b'



Answer: C

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458. Some statements are given below about ethers,

1. they are Lewis bases
2. their boiling point increases with increasing molecular weight

3. all are volatile liquids at room

4. with water dimethyl ether form hydrogen bond

Among the above, false statement(s) is/are temperature

A. only 4

B. only 3 and 4

C. only 3

D. none of these

Answer: C



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459. Ether $\xrightarrow[\text{H}_2\text{O}]{\text{dil. H}_2\text{SO}_4}$ two products .

One of the product on oxidation give acetic acid , while the other on oxidation give acetone . The ether is

A. ethyl n-propyl ether

B. ethyl methyl ether

C. ethyl isopropyl ether

D. methyl isopropyl ether

Answer: C



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460. Some statements are given below about diethyl ether,

1. its boiling point lower than 1-butanol
2. it is used as anaesthetic
3. with dilute H_2SO_4 , it give two homologue
4. with cold HI give iodoethane

Among the above, correct statement(s) is/are

A. only 1

B. only 1 and 2

C. only 2

D. only 1, 2 and 4

Answer: B



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461. The number of bond pair and lone pair on oxygen atom in ether are respectively

A. 1 and 2

B. 2 and 1

C. 2 and 2

D. 1 and 3

Answer: C



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462. Diethyl ether can be decomposed by heating with

A. NaOH

B. $KMnO_4$ solution

C. Water

D. HI

Answer: D

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463. Which of the following is most suitable reagent to distinguish ether from alcohol ?

A. Na metal

B. HI

C. HBr

D. All of these

Answer: A

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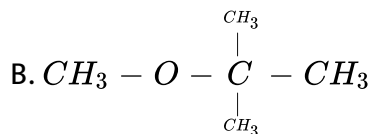
464. Which of the following is used in the preparation of RMgX ?

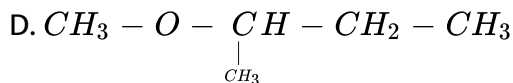
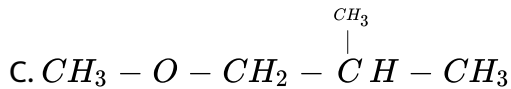
- A. Dimethyl ether
- B. Diethyl ether
- C. Ethyl methyl ether
- D. Ethanol

Answer: B

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465. Which of the following give methyl alcohol with cold HBr





Answer: B

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466. On heating diethyl ether with conc. HI, 2 moles of which of the following is formed ?

A. Ethanol

B. Iodoform

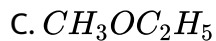
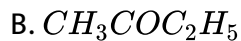
C. Ethyl iodide

D. Methyl iodide

Answer: C

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467. By the action of CH_3I on sodium ethoxide, we get



D. Ethyl acetate

Answer: C



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468. Ethyl chloride is converted into diethyl ether by

A. Wurtz synthesis

B. Grignard reaction

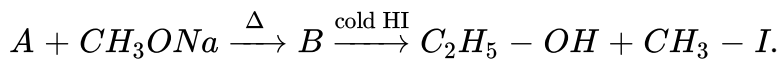
C. Perkin's reaction

D. Willaimson's synthesis

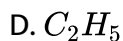
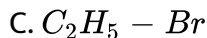
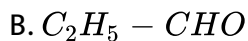
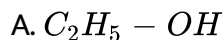
Answer: D

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469. Consider the following reaction



The compound A is



Answer: C

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470. Which one of the following statement is not true regarding ether ?

- A. These are Lewis bases
- B. They are highly inflammable.
- C. They on acid hydrolysis gives alcohol.
- D. These are Lewis acid

Answer: D

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471. What are the product of following reaction ?



- A. $C_2H_5OH + CH_3I$
- B. $C_2H_5I + CH_3OH$
- C. $C_2H_5OH + CH_3OH$
- D. $C_2H_5I + CH_3I$

Answer: A

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472. IUPAC name of ethyl isopropyl ether

- A. 2-ethoxypropane
- B. 1-ethoxypropane
- C. 2-methyl- 2-ethoxypropane
- D. 1-methyl- 2-ethoxypropane

Answer: A

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473. 4-alkoxy alkyl benzene is obtained from

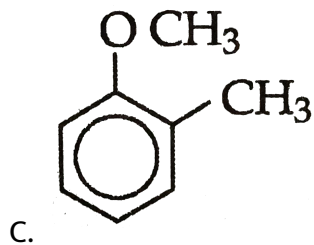
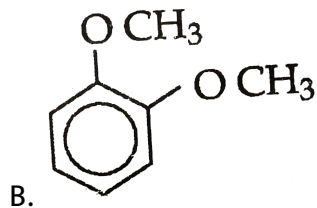
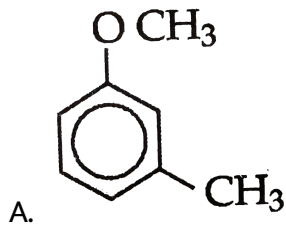
- A. Friedel - Craft reaction
- B. Ulmann reaction
- C. Wurtz - fittig reaction

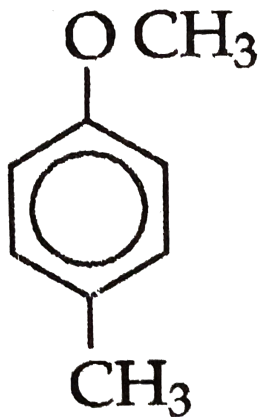
D. Fittig reaction

Answer: A

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474. Minor product obtained when anisole on methylation





Answer: C

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475. Acylation of alkyl phenyl ether gives

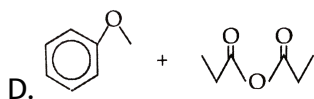
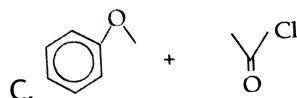
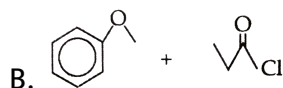
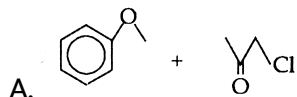
- A. 2-alkoxy alkyl phenyl ketone (major)
- B. 4-alkoxy alkyl phenyl ketone (minor)
- C. 4-alkoxy alkyl phenyl ketone (major)
- D. 3-alkoxy alkyl phenyl ketone (major)

Answer: C



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476. 4-methoxy acetophenone is obtained from



Answer: C



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477. Actually 18-crown-6 ether means,

A. 18-oxygen and 6 carbon

- B. 12-carbon and 6-oxygen
- C. 12-carbon and 12-oxygen
- D. 6-oxygen and 6-carbon

Answer: B

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478. 18-crown -6 ether is able to trap

- A. K^+
- B. Na^+
- C. Li^+
- D. all of these

Answer: A

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479. Which crown ether is used to extract cerium ?

- A. 15-crown-5
- B. 18-crown-6
- C. 12-crown -4
- D. 10- crown-3

Answer: B



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480. Diethyl ether is safe anesthetic agent. On administration it affect quickly to the central nerve system because

- A. it is more soluble in fatty acid than water
- B. it is more soluble in water than fatty acid
- C. it is not soluble in fatty acid
- D. it is highly inflammable

Answer: A



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481. Which of the following is not used as anesthetic agent?

- A. Diethyl ether
- B. Nitrous oxide
- C. Haloethane
- D. Methanol

Answer: D



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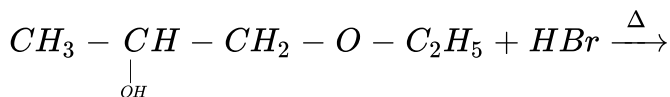
482. Lower molecular weight optically active ether is reacted with cold HI gives

- A. butan-1-ol and iodomethane
- B. butan-2-ol and iodomethane
- C. propan-1-ol and iodoethane
- D. propan-2-ol and iodoethane

Answer: B

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483. Product of the following reaction is



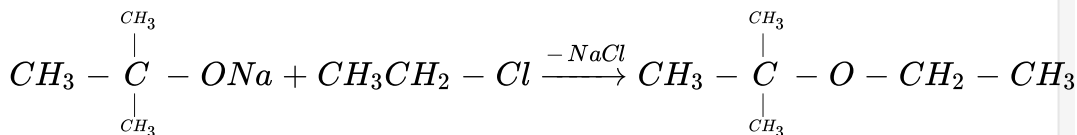
- A. C_2H_5Br and $CH_3CHBrCH_3$
- B. C_2H_5Br and $CH_3CHBrCH_2Br$
- C. C_2H_5Br and $CH_3CHOHCH_2Br$
- D. C_2H_5OH and $CH_3CHBrCH_2Br$

Answer: B



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484. The reaction



is called .

- A. Williamsons Synthesis
- B. Williamson continous etherification process
- C. Etard reaction
- D. Gatterman-Koch reaction

Answer: A



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485. Fluoroboric acid is used as catalyst in preparation of ether from

A. sodium alkoxide

B. diazomethane

C. alkyl halide

D. acetone

Answer: B

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486. Sodium iso-propoxide + A $\xrightarrow{\Delta}$ 2-ethoxy propene + NaCl

The compound A is

A. C_2H_5ONa

B. C_2H_5COCl

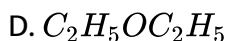
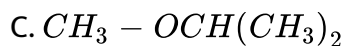
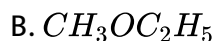
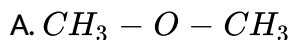
C. C_2H_5Cl

D. CH_3ONa

Answer: C

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487. Which of the following ether is not produced from methylation of alcohol ?



Answer: D

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488. 2-ethoxy propane is formed from ethyl bromide and what ?

A. Sodium ethoxide

B. Sodium iso-propoxide

C. iso-butyraldehyde

D. iso-propyl alcohol

Answer: B

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489. CH_2N_2 and 2-propanol gives

A. $(CH_3)_2CHOCH_3$

B. $(CH_3)_2CHCOOH$

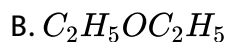
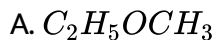
C. $(CH_3)_2NCH_3$

D. $(CH_3)_2CH - NH - CH_3$

Answer: A

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490. Which one of the following ether produces in higher yield by continuous etherification process ?



Answer: B



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491. Williamson's reaction is used in the preparation of

A. Alcohols

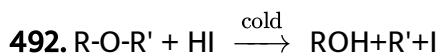
B. ethers

C. aldehyde

D. ketones

Answer: B

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If R contains three carbon atoms then how many carbon atoms are in R' ?

A. 2

B. 4

C. 5

D. 6

Answer: A

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493. The reaction between alcohol and conc. H_2SO_4 at 413 K gives

- A. diethyl ether
- B. isopropyl alcohol
- C. diethyl alcohol
- D. ethene

Answer: A

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494. In industry phenol is prepared from

1. Raschig's method
2. Dow's method
3. Oxidation of cumene
4. Oxidation of hexane

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

D. 1, 2, 3

Answer: D

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495. Replacement of $N_2^+ X^-$ can be done by

A. H_3O^+

B. aq. NaOH

C. alc. KOH

D. moist Ag_2O

Answer: A

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496. Carboic acid is obtained from oxidation of

A. sodium salicylate

B. salicylic acid

C. toluene

D. cumene

Answer: D

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497. Cumene on air oxidation give

A. carbonic acid

B. carbolic acid

C. carboxylic acid

D. oxalic acid

Answer: B

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498. Phenol on heating with NaOH followed by reaction with alkyl halide gives

- A. phenetole
- B. phenyl acetate
- C. anisole
- D. toluene

Answer: C



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499. Select incorrect statement

- A. Reaction with Br_2 and water gives 2, 4, 6-tribromophenol.
- B. Reaction with dilute HNO_3 gives mixture of o-nitrophenol (minor) and p-nitrophenol (major)

C. Reaction with nitrating mixture gives picric acid

D. Reaction with conc. H_2SO_4 at 300 K gives o-phenolsulphonic acid.

Answer: B



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500. Consider the following species

(1) o-nitrophenol

(2) p-nitrophenol

(3) o-bromophenol

Intramolecular hydrogen bonding can take place in

A. only 3

B. 1 and 3

C. only 1

D. 2 and 3

Answer: C



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501. Which is steam volatile ?

- A. o-nitrophenol
- B. m-nitrophenol
- C. p-nitrophenol
- D. picric acid

Answer: A



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502. Br_2 dissolved in CS_2 reacts with phenol at 273 K to give as the major product

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

C. mixture of 'a' and 'b'

D. 2, 4, 6-tribromophenol

Answer: B



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503. Kolbes - Schmidt reaction is used to prepare

A. salicylic acid

B. salicylaldehyde

C. phenyl acetate

D. o-xylene

Answer: A



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504. Reimer and Tiemann reaction is used to prepare

- A. salicylic acid
- B. salicylaldehyde
- C. phenyl benzoate
- D. picric acid

Answer: B



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505. Benzene diazonium chloride is converted into phenol by

- A. oxidation
- B. reduction
- C. neutralisation
- D. hydrolysis

Answer: D



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506. Cresols have

A. 2-OH groups

B. 4-OH groups

C. 1-OH group

D. 5-OH groups

Answer: C



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507. Benzene sulphonic acid is reacted with NaOH gives

A. sodmm phenoxide

B. cumene

C. cumene hydroperoxide

D. sodium benzene sulphonate

Answer: D

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508. Product obtained when steam is passed over chlorobenzene

A. sodium phenoxide

B. sodium benzene sulphonate

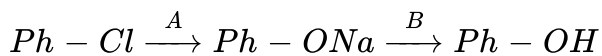
C. carbolic acid

D. benzene diazonium salt

Answer: C

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509. Find out A and B in the following reaction respectively



A. NaOH and HCl

B. H_2O and HCl

C. HCl and NaOH

D. HCl and H_2O

Answer: A



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510. Phenol is

A. neutral

B. amphoteric

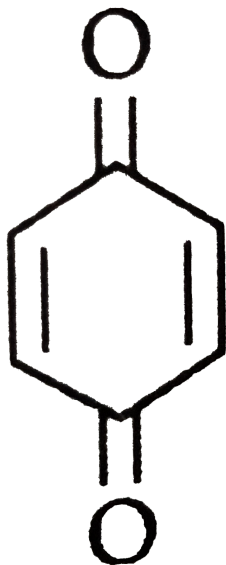
C. basic

D. acidic

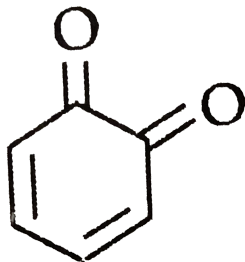
Answer: D

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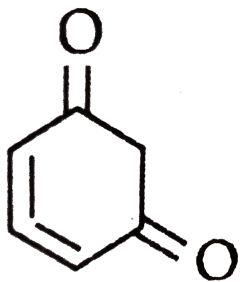
511. Phenol on oxidation by chromic acid gives



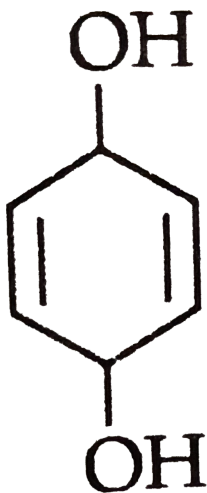
A.



B.



C.



D.

Answer: A

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512. P-benzoquinone is obtained from phenol by

A. reduction

B. oxidation

C. acidic hydrolysis

D. alkaline hydrolysis

Answer: B



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513. Which of the following is/are steam volatile ?

1. p-nitrophenol

2. o-nitrophenol

3. a-hydroxy acetophenon

4. p-hydroxy acetophenone

A. 1, 4

B. 2, 3

C. 1, 3

D. 3, 4

Answer: B



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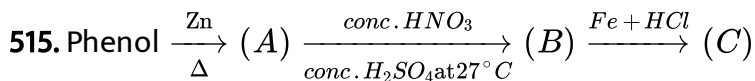
514. The formation of salicylic acid from phenol using NaOH and CO_2 is known as

- A. Friedel - Craft reaction
- B. Kolbe's-Schmidt reaction
- C. Reimer and Tiemann reaction
- D. Fittig reaction

Answer: B



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In above reaction ,compound A,B, C are

A. benzene, benzene sulphoric acid, aniline

B. benzene, trinitrobenzene, aniline

C. benzene dinitrobenzene, aniline

D. benzene, nitrobenzene, aniline

Answer: D

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516. In diazotisation reaction, carbolic acid is prepared from

A. curnene

B. chlorobenzene

C. aniline

D. sod. phenoxide

Answer: C

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517. Cumene is converted in phenol by

- A. reduction and decomposition by acid
- B. oxidation and decomposition by acid
- C. reduction and decomposition by alkali
- D. oxidation and decomposition by alkali

Answer: B



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518. Phenol on standing in air develop a red colour, due to formation of

- A. cyclohexane
- B. phenoquinone
- C. resorcinol

D. quinol

Answer: B



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519. Benzene is obtained from phenol by using

A. Na metal

B. Ca metal

C. Zn metal

D. NaOH

Answer: C



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520. When phenol is reacted with $CHCl_3$ and NaOH, followed by treatment with $LiAlH_4$ gives

- A. m-hydroxy methyl phenol
- B. p-hydroxy methyl phenol
- C. a-hydroxy methyl phenol
- D. a-hydroxy methyl phenol

Answer: C



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521. Reagent used in Reimer -Tiemann reaction are

- A. CH_3Cl and aq.NaOH
- B. CH_3Cl and $POCl_3$
- C. $CHCl_3$ and aq.NaOH
- D. $CHCl_3$ and alc.NaOH

Answer: C



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522. K_a value of phenol is

- A. More than carboxylic acid
- B. Less than alcohol
- C. More than alcohol
- D. Less than water

Answer: C



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523. Salicylic acid is prepared from phenol by the reaction known as

- A. Wurtz reaction

- B. Williamson reaction
- C. Kolbes-Schmidt reaction
- D. esterification

Answer: C

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524. C-O bond length in phenol is less than C-O bond length in methyl alcohol because

- A. partial double bond character due to resonance
- B. partial double bond character due to inductive effect
- C. more electronegativity of oxygen
- D. oxygen contain two lone pair of electrons

Answer: A

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525. The most suitable method of separation of ortho and para-nitrophenol mixed in the ratio of 1 : 1 is

- A. steam distillation
- B. vapourisation
- C. crystallisation
- D. colour spectrum

Answer: A::C



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526. The reaction of phenol with air. The product is

- A. Anthraquinone
- B. Benzophenone
- C. Benzoquinone

D. Propiophenone

Answer: C

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527. Picric acid contain

- A. 2-nitro groups
- B. 3-nitro groups
- C. 2-nitrite groups
- D. 3-nitrite groups

Answer: B

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528. Phenol is

- A. a base weaker than ammonia
- B. an acid stronger than carboxylic acid
- C. an acid weaker than carboxylic acid
- D. a neutral compound.

Answer: C

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529. The synthesis of PhOH from PhCl is called

- A. Cumene process
- B. Dow's process
- C. Williamson's synthesis
- D. Wurtz synthesis

Answer: B

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530. Phenol reacts with bromine in CS_2 at low temperature to give

- A. m-bromophenol
- B. p-bromophenol
- C. o- and p-bromophenols
- D. 2, 4, 6-tribromophenol

Answer: C



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531. When phenol is treated with excess brominewater, it gives

- A. m-bromophenol
- B. o and p-bromophenols
- C. 2, 4-dibromophenol

D. 2, 4, 6-tribromophenol

Answer: D

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

A. Br_2 / CCl_4

B. NaOH

C. $NaHCO_3$

D. neutral $FeCl_3$

Answer: C

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533. An organic compound with molecular formula C_6H_6O dissolves in NaOH and gives characteristic colour with neutral $FeCl_3$. On treatment with bromine water it gives tribromoderivative. The compound is,

- A. alcohols
- B. ketones
- C. ethers
- D. phenol

Answer: D



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534. 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

C. nitrate ion

D. nitrogen peroxide

Answer: B

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535. Carboic acid is

A. C_6H_5CHO

B. C_6H_6

C. C_6H_5COOH

D. C_6H_5OH

Answer: D

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536. Under different conditions nitration of phenol yields

- A. o-nitrophenol
- B. p-nitrophenol
- C. 2, 4, 6-trinitro phenol
- D. all of these

Answer: D



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537. Picric acid is

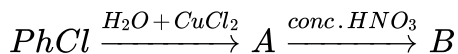
- A. a volatile liquid
- B. trinitroaniline
- C. 2, 4, 6-trinitrophenol
- D. butyric acid

Answer: C



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538. The end product in the following reaction is,



A. PhOH

B. PhBr

C. $PhNO_2$

D. picric acid

Answer: D



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539. Phenol is heated with conc. H_2SO_4 at high temperature gives,

- A. o-phenol sulphonic acid
- B. p-phenol sulphonic acid
- C. m-phenol sulphonic acid
- D. all of these

Answer: B

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540. Phenol gives violet colour with

- A. neutral $FeCl_3$
- B. neutral $FeSO_4$
- C. acidic $FeCl_3$
- D. acidic $FeSO_4$

Answer: A

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541. Picric acid is obtained by the nitration of

- A. cumene
- B. phenol
- C. methanol
- D. ethanol

Answer: B



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542. Acidic nature of phenol is due to

- A. phenolic group
- B. benzene group
- C. hydrogen bonding

D. resonance stabilisation of phenoxide ion

Answer: D

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543. Carboic acid is reacted with conc. H_2SO_4 at 300 K gives,

A. 2-hydroxybenzenesulphonic acid

B. 3-hydroxybenzenesulphonic acid

C. 4-hydroxybenzenesulphonic acid

D. 2 and 4-phenol sulphonic acid

Answer: A

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544. Phenol reacts with Br_2 in CCl_4 at low temperature to give

A. o- and p- bromophenol

B. m-bromophenol

C. p-bromophenol

D. 2, 4, 6-tribromophenol

Answer: A

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545. Which of the following is explosive ?

A. Picric acid

B. Methyl amine

C. Cumene

D. Ethanol

Answer: A

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546. Nitrating mixture consists of

- A. conc. HNO_3 + conc. HCl
- B. conc. HNO_3 + conc. H_2SO_4
- C. conc. H_2SO_4 + conc. H_3PO_4
- D. conc. HCl + conc. H_2SO_4

Answer: B



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547. Cumene is

- A. phenyl n-propane
- B. 2-propyl benzene
- C. chlorobenzene

D. benzene

Answer: B



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548. 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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549. Nitration of phenol is

- A. nucleophilic substitution
- B. electrophilic substitution
- C. elimination
- D. none of these

Answer: B



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550. Phenol is ortho and para directing due to electron donating OH group, electron density increases at,

- A. ortho position
- B. para position
- C. meta position
- D. both 'a' and 'b'

Answer: D



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551. 4-bromophenol is mainly formed, when phenol is reacted with,

- A. Br_2 /water
- B. Br_2 /inert solvent
- C. HBr/water
- D. HBr/inert solvent

Answer: B



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552. The number of α and π -bonds present in the molecule of carbolic acid are respectively

A. 7, 3

B. 2, 3

C. 4, 3

D. 13, 3

Answer: D



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553. During preparation of phenol from cumene, side product obtained is

A. acetone

B. alcohol

C. aldehyde

D. acid

Answer: A



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554. Sulphonation of phenol with conc. H_2SO_4 at 373 K gives

- A. p-phenol sulphonic acid
- B. o-phenol sulphonic acid
- C. m-phenol sulphonic acid
- D. all of these

Answer: A



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555. 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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556. 2-propylbenzene on air oxidation and followed by decomposition by dilute acid gives

- A. phenol and propanal
- B. phenol and propanone
- C. phenol and propanol
- D. phenol and propionic acid

Answer: B

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557. The reaction $\text{Ph-OH} + \text{dilute } \text{HNO}_3 \rightarrow ?$

Gives predominately

- A. 2-nitrocarbolicacid
- B. 4-nitrocarbolicacid
- C. 2,4,6- trinitrocarbolic acid
- D. 3-nitro carbolic acid

Answer: A



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558. Some statements are given below about, carbolic acid

1. it react with Na metal
2. it gives violet colour with neutral FeCl_3
3. it forms only one monobrominated product
4. it is acidic in nature.

Among the above, true statement(s) is/are

- A. only 4
- B. only 2 and 4
- C. only 1, 2 and 4
- D. all of these

Answer: C

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559. During sulphonation, conc. H_2SO_4 is used for

- A. the introduction of $-SO_3H$ group in benzene
- B. the introduction of $-SO_4H$ group in benzene
- C. the introduction of $-SO_2H$ group in benzene
- D. all of these

Answer: A

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560. At different condition nitration of phenol gives

- A. o-nitrophenol
- B. p-nitrophenol
- C. Picric acid
- D. All of these

Answer: D



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561. How many O-H groups are present in phloroglucinol ?

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

D. 5

Answer: A



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562. Diazotisation reaction is used to prepare

A. alcohol

B. phenol

C. aldehyde

D. ketone

Answer: B



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563. The reaction of conc. HNO_3 and phenol forms

- A. benzoic acid
- B. salicylic acid
- C. o- and p-nitrophenol
- D. picric acid

Answer: D

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564. At low temperature phenol reacts with Br_2 in CS_2 to form

- A. m-bromophenol
- B. o-and p-bromophenol
- C. p-bromophenol
- D. 2, 4, 6-tribromophenol

Answer: B

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565. Picric acid is

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

Answer: D



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566. Chlorobenzene on fusing with solid NaOH gives

- A. benzene
- B. benzoic acid
- C. phenol

D. benzyl chloride

Answer: C



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567. Bakelite plastic is formed, when phenol reacts with

A. CH_3CHO

B. HCHO

C. acetone

D. HCOOH

Answer: B



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568. Aromatic primary amine when treated with cold HNO_2 and HCl forms

- A. benzene
- B. diazonium salt
- C. nitrobenzene
- D. benzyl alcohol

Answer: B



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569. Phenol is treated with bromine water and shaken well. The white precipitate of which of the is formed

- A. m-bromophenol
- B. 2,4-dibromophenol
- C. 2,4,6-tribromophenol

D. a mixture of o- and p-bromophenols

Answer: C

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570. The bakelite is prepared by the reaction between

- A. urea and formaldehyde
- B. ethylene glycol
- C. phenol and formaldehyde
- D. tetramethylene glycol

Answer: C

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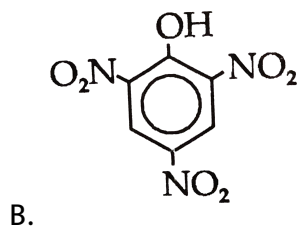
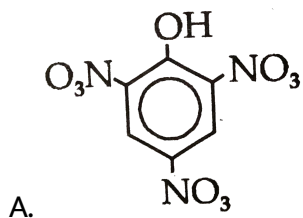
571. Phenols are more acidic than aliphatic alcohols because

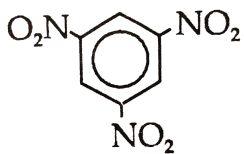
- A. phenoxide ion is stabilised by resonance
- B. phenols are more soluble in polar solvents
- C. phenoxide ion do not have resonance
- D. alcohols do not loose H-atom at all

Answer: A

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572. Which of the following is explosive?





C.

D. None of these

Answer: B

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573. Phenol is less acidic than

A. p-nitro phenol

B. cresol

C. ethanol

D. benzyl alcohol

Answer: A

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574. Which of the following statement is correct ?

1. electron withdrawing groups stabilize the phenoxide ion and increase the acidic strength
2. electron donating groups destabilise the phenoxide ion and decrease the acidic strength.
3. -OH group in phenol is ortho and para directing.
4. Intermolecular H-bonding is present in phenol

A. 1, 3

B. 1, 2

C. 3, 4

D. 1, 2, 3, 4

Answer: D



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575. Phenol is

A. strong acidic

B. weak acidic

C. strong basic

D. neutral

Answer: B

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576. Which of the following group stabilise the phenoxide ion ?

A. CH_3

B. OH

C. OR

D. NO_2

Answer: D

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577. Which of the following group destabilise the phenoxide ion?

A. NO_2

B. $-CHO$

C. COR

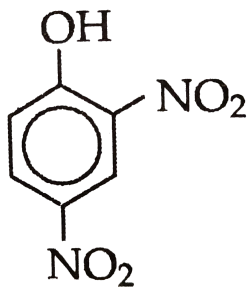
D. OH

Answer: D

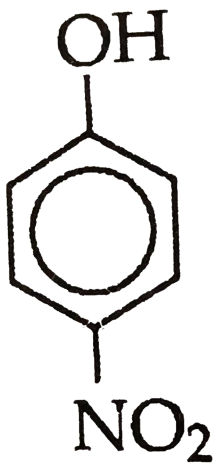


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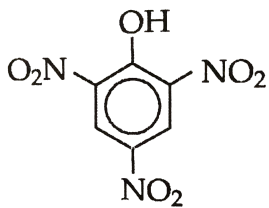
578. Which of the following is more acidic in nature?



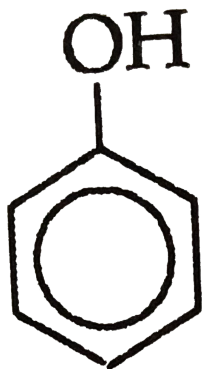
A.



B.



C.



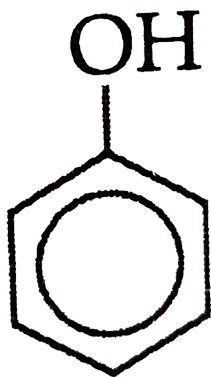
D.

Answer: C

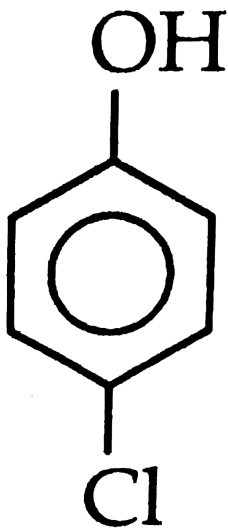


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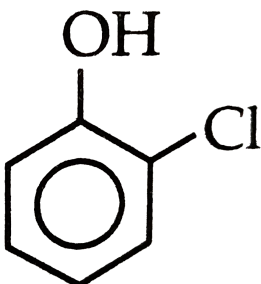
579. Which of the following has more pK_a value ?



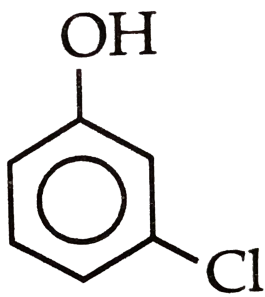
A.



B.



C.

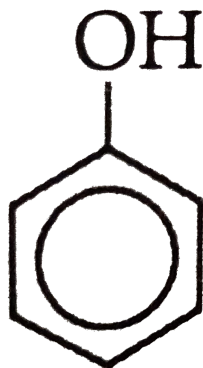


D.

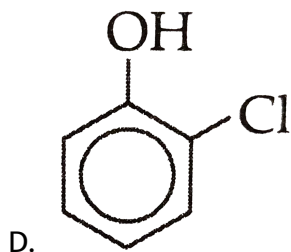
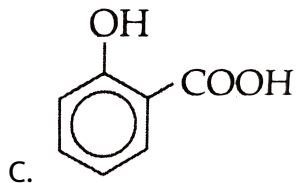
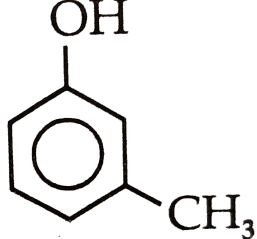
Answer: A

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580. Which of the following has more K_a value ?



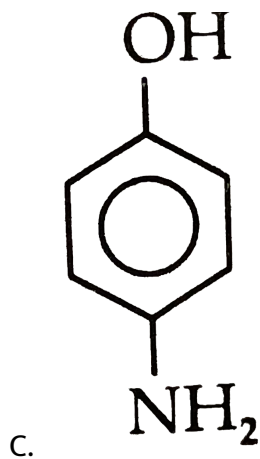
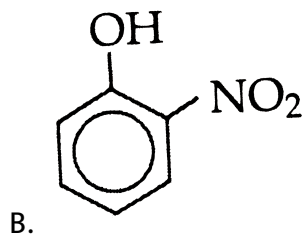
A.

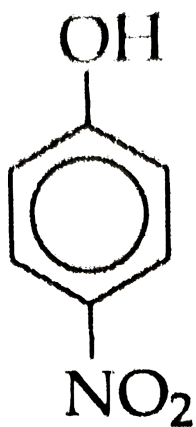


Answer: C

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581. Which of the following has highest K_a value ?

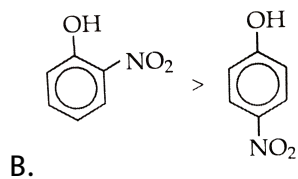
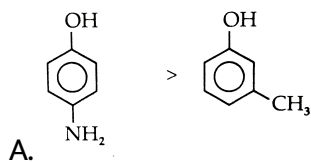


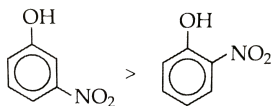


Answer: D

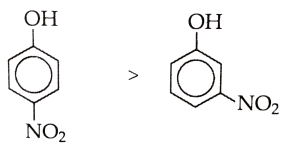
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582. In which of the following first is more acidic than second ?





C.

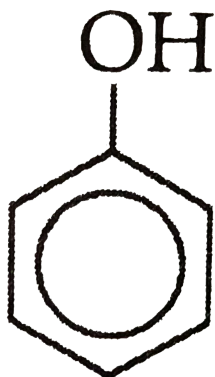


D.

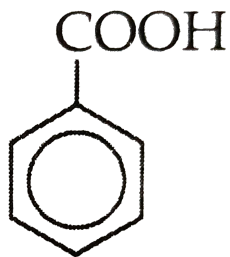
Answer: D

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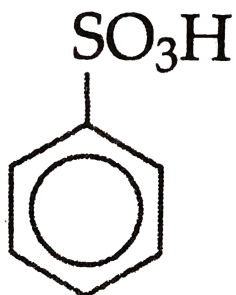
583. Which of the following is most acidic ?



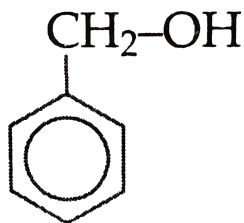
A.



B.



C.



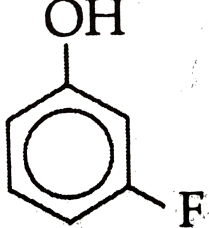
D.

Answer: C

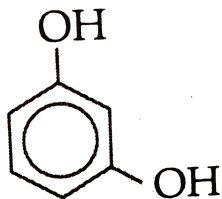


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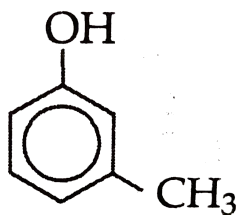
584. Which of the following is most acidic ?



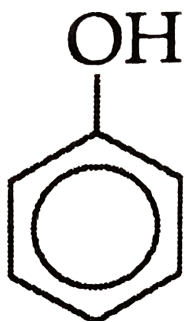
A.



B.



C.



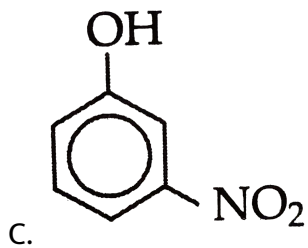
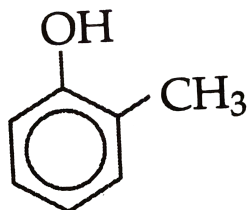
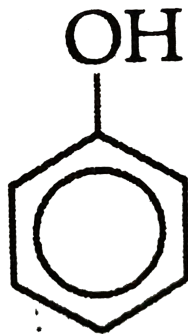
D.

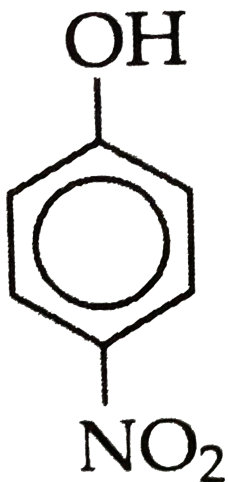
Answer: A



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585. Which of the following is less acidic ?





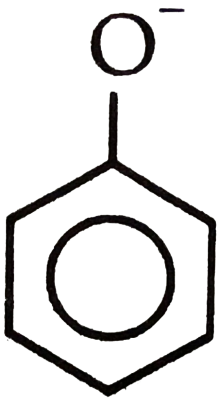
D. _____

Answer: B

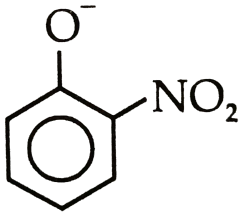


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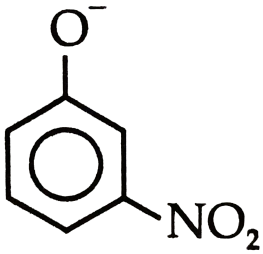
586. Which of the anion is most stable due to delocalisation ?



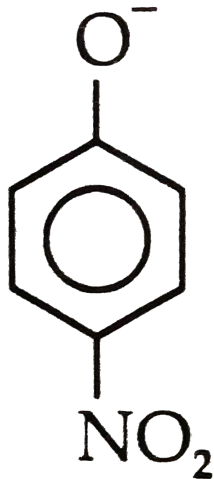
A.



B.



C.

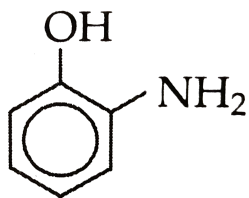


D.

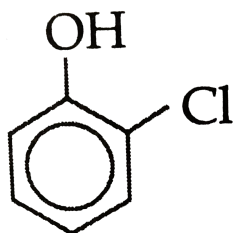
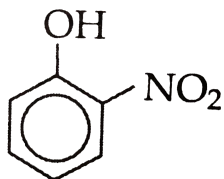
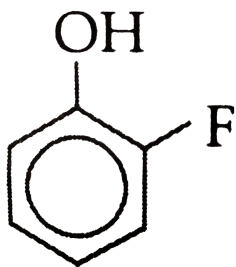
Answer: D

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587. Which of the following is more acidic ?



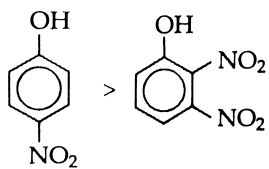
A.



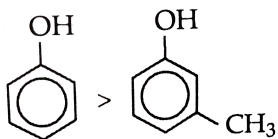
Answer: C

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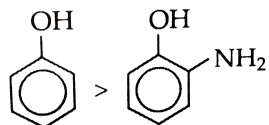
588. In which of the following first is more acidic than second ?



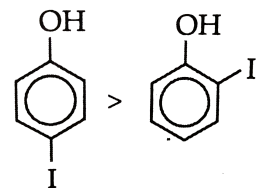
A.



B.



C.



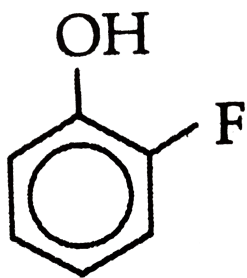
D.

Answer: B

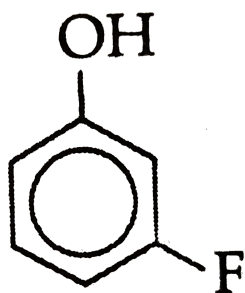


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589. Which of the following is less acidic in nature ?



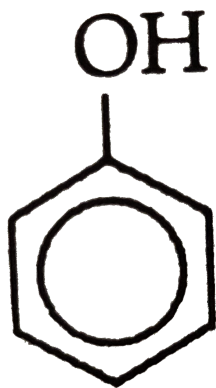
A.



B.



C.



D.

Answer: D



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