



CHEMISTRY

BOOKS - DISHA CHEMISTRY (HINGLISH)

ALCOHOLS, PHENOLS AND ETHERS

Chemistry

1. Diethyl ether reacts, inspite of its usual inert nature, with:

- A. Dilute sulphuric acid
- B. Dilute sodium hydroxide
- C. Boron trifluoride
- D. Metallic sodium

Answer: C



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2. n-Propyl alcohol and isopropyl alcohol can be chemically distinguished by which reagent?

A. PCl_5

B. Reduction

C. Oxidation with potassium dichromate

D. Ozonolysis

Answer: C



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3. Which of the following reactions will not result in the formation of anisole?

- A. Phenol + dimethyl sulphate in presence of a base
- B. Sodium peroxide is treated with methyl iodide
- C. Reaction of diazomethane with phenol
- D. Reaction of methyl magnesium iodide with phenol

Answer: D



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4. Intermolecular hydrogen bonding is strongest in:

A. Methylanine

B. Phenol

C. Formaldedyte

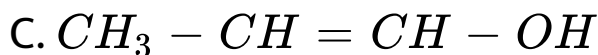
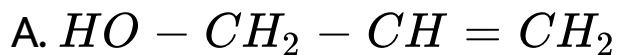
D. Methanol

Answer: D



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5. Vinyl carbinol is



Answer: A



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6. Lucas reagent is

A. Conc. HCl and anhydrous ZnCl_2

B. Conc. HNO_3 and hydrous ZnCl_2

C. Conc. HCl and hydrous ZnCl_2

D. Conc. HNO_3 and anhydrous ZnCl_2

Answer: A



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7. The order of reactivity of the following alcohols towards conc. HCl is



A. $I > II > III > IV$

B. $I > III > II > IV$

C. $IV > III > II > I$

D. $IV > III > I > II$

Answer: C



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8. What is the major product in the following reaction?



A. 

B. 

C. 

D. 

Answer: B



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9. Epichlorohydrin is

A. 3-Chloropropane

B. 3-Chloropropan-1-ol

C. 3-Chloro-1,2-epoxypropane

D. None of these

Answer: C



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10. CH_3CH_2OH can be converted into CH_3CHO by _____

A. Catalytic hydrogenation

B. treatment with $LiAlH_4$

C. treatment with pyridinium
chlorochromate

D. treatment with $KMnO_4$

Answer: C



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11. In Williamson synthesis if tertiary alkyl halide is used than

A. ether is obtained in good yield

B. ether is obtained in good yield

C. alkene is the only reaction product

D. a mixture of alkene as a major product
and ether as a minor product forms

Answer: C



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12. Denaturation of alcohol is the

A. mixing of $CuSO_4$ (a foul smelling solid) and pyridine (to give the colour) to make the commercial alcohol unfit for drinking

B. mixing of $CuSO_4$ (to give the colour) and pyridine (a foul smelling solid) to make the commercial alcohol unfit for drinking

C. Mixing of $Cu(OAc)_2$ and ammonia to make the commercial alcohol unfit for drinking.

D. Mixing of $Cu(OAc)_2$ and pyridine to make the commercial alcohol unfit for drinking.

Answer: B



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13. 2-Phenylethanol may be prepared by the reaction of phenylmagnesium bromide with

A. $HCHO$

B. CH_4CHO

C. CH_3COCH_3

D. 

Answer: D



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14. Arrange the following in increasing order of their acidity? o-cresol(a), salicylic acid(b), phenol(c)

A. $c < a < b$

B. $b < c < a$

C. $a < b < a$

D. $a < c < b$

Answer: D



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15. Which of the following is most reactive towards aqueous HBr?

A. 1-phenyl-1-propanol

B. 1-Phenyl-2-propanol

C. 3-Phenyl-1-propanol

D. All are equally reactive

Answer: A



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16. The ionization constant of phenol is higher than that of ethanol because :

A. phenoxide ion is bulkier than ethoxide

B. phenoxide ion is stronger base than ethoxide

C. phenoxide ion is stabilized through delocalization

D. phenoxide ion is less stable than ethoxide

Answer: C



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17. Rectified spirit is a mixture of

A. 95% ethyl alcohol +5% water

B. 94% ethyl alcohol +4.53water

C. 94.4% ethyl alcohol +5.43% water

D. 95.87% ethyl alcohol +4.13% water

Answer: D



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18. Ethanol is prepared industrially by

A. Hydration of ethlene

B. fermentation of sugar

C. Both the above

D. None of these

Answer: C



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19. Mechanism of acid catalysed hydration reaction involves

(i) Protonation of alkene to form carbocation by electrophilic attack of H_3O^+

(ii) Nucleophilic attack of water on carbocation.

(iii) Deprotonation to form alcohol.

A. (i) and (ii)

B. (i) and (iii)

C. (i), (ii) and (iii)

D. (ii) and (iii)

Answer: C



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20. Absolute alcohol (100% alcohol) is prepared by distilling rectified spirit over

A. Na

B. $CaCl_2$

C. Mg

D. $Mg(OC_2H_5)$

Answer: C



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21. p-cresol reacts with chloroform in alkaline medium to give the compound A which adds hydrogen cyanide to form, the 29. compound B. The latter on acidic hydrolysis gives chiral carboxylic acid. The structure of the carboxylic acid is

A. 

B. 

C. 

D. 

Answer: C



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22. Which one of the following will show the highest pH value?

A. m-nitrophenol

B. p-nitrophenol

C. o-nitrophenol

D. Both (b) and (c)

Answer: A



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23. Which of the following compounds is resistant to nucleophilic attack by hydroxyl ions?

A. Methyl acetate

B. Acetonitrile

C. Acetamide

D. Diethyl ether

Answer: D



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24. Zerevitinov's determination of active hydrogen in a compound is based upon its reaction with

A. Na

B. CH_3Mg

C. Zn

D. Al

Answer: B



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25. Williamson's synthesis is used to prepare

A. acetone

B. diethyl ether

C. P.V.C

D. bakelite

Answer: B



26. Which of the following statements are correct?

(i) Ethanol mixed with methanol is called denatured alcohol.

(ii) Excess of methanol in body may cause blindness.

(iii) In the body methanol is oxidised to methanoic acid.

(iv) A methanol poisoned patient is treated by giving intravenous injections of ethanoic acid.

A. (i), (ii) and (iii)

B. (ii) (iii) and (iv)

C. (i) and (iv)

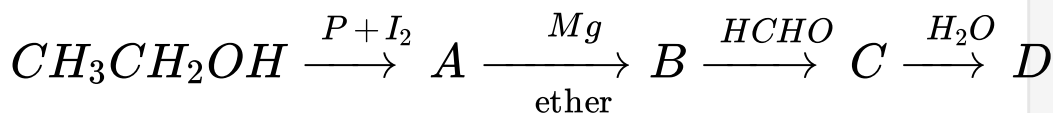
D. (i), (iii) and (iv)

Answer: A



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27. In the following sequence of reactions



the compounds D is

A. propanal

B. butanal

C. n-butyl alcohol

D. n-propyl alcohol

Answer: D



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

A. bacteria

B. oxidation of C_2H_5OH to CH_3COOH

C. virus

D. formic acid formation

Answer: B



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29. Which of the following diols would cleave into two fragments with HIO_4

A. 1,3-hexanediol

B. 2,4-hexanediol


C. 1,6-hexanediol

D. 3,4-hexanediol

Answer: D



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30. The major product of the following reaction is 

A. a hemiacetal

B. an acetal

C. an ether

D. an ester

Answer: B



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31. $H_2COH - CH_2OH$ on heating with periodic acid gives



B. |



C. 

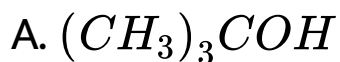


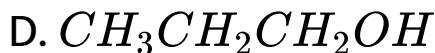
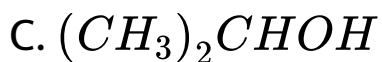
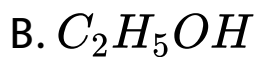
Answer: C



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32. Victor Meyer's test is not given by





Answer: A



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33. What is X in the following reaction?



B. $CH_3OH, CH_3O^- Na^+$

C. H_2O/H_2SO_4 followed by CH_3OH

D. CH_3MgBr /ether followed by H_3O^-

Answer: A



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34. Which of the following pairs of reagents would give 4 -methyl-2-pentanol?

A. $(CH_3)_2CHLi, CH_3COCH_3$

B. $(CH_3)_2CHCH_2Li$, CH_3CHO

C. $(CH_3)_2CHLi$, CH_3CH_2CHO

D. CH_3CH_2Li , $(CH_3)_2CHCHO$

Answer: B



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35. Which of the following cannot be made by reduction of ketone or aldehyde with $NaBH_4$ in methanol?

A. 1-butanol

B. 2-butanol

C. 1-methyl-1-propanol

D. 2-methyl-2-propanol

Answer: D



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36. Osmium tetra oxide is a reagent used for

A. hydroxylation of acetylenes

B. hydroxylation of olefins to give cis-diols

C. hydroxylation of olefins to form trans-diols

D. hydroxylation of carbonyl compounds

Answer: B



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37. The reaction of sodium ethoxide with ethyl iodide to form diethyl ether is termed

A. electrophilic substitution

B. nucleophilic substitution

C. electrophilic addition

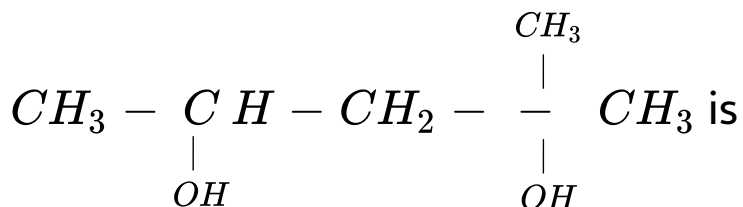
D. radical substitution

Answer: B



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38. The IUPAC name of



A. 1,1-dimethyl-1,3-butanediol

B. 2-methyl-2,4-pentanediol

C. 4-methyl-2,4-pentanediol

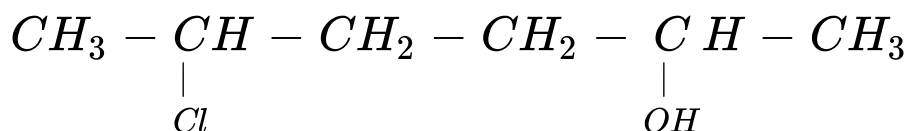
D. 1,3,3-trimethyl-1,3-propanediol

Answer: B



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39. The IUPAC name of the compound given below



A. 2-Chloro-5-hydroxyhexane

B. 2-Hydroxy-5-chlorohexane

C. 5-Chlorohexane-2-ol

D. 2-Chlorohexane-5-ol

Answer: C



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40. Aspirin is an acetylation product of

A. p-Dihydroxybenzene

B. o-Hydroxybenzoic acid

C. o-Dihydrobenzene

D. m-Hydroxybenzoic acid

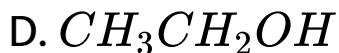
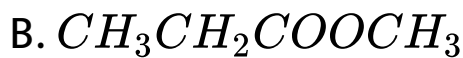
Answer: B



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41. Acetic anhydride reacts with diethyl ether in the presence of anhydrous $AlCl_3$ to give

A. $CH_3CHOOCH_3$

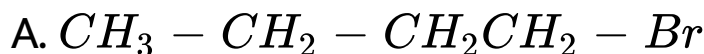


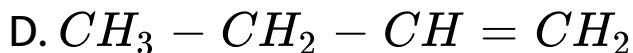
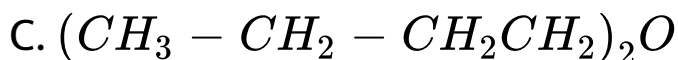
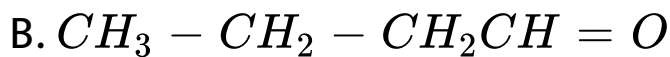
Answer: C



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42. Formation of which compound given below from 1-butanol needs an oxidising agent?

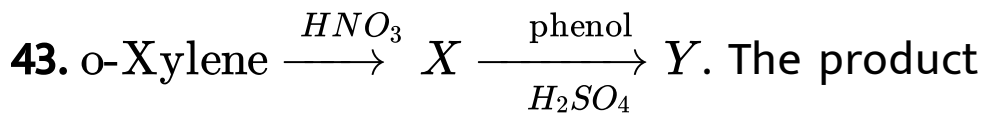




Answer: B



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is

A. Phthalic acid

B. Isophthalic acid

C. Phenolphthalein

D. o-Hydroxysulphonic acid

Answer: C



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44. Which of the following, upon treatment with tert-BuONa followed by addition of bromine water, fails to decolourize the colour of bromine?

A. 

B. 

C. 

D. 

Answer: A



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