CHEMISTRY

BOOKS - MODERN PUBLICATION CHEMISTRY (KANNADA ENGLISH)

ALCOHOLS, PHENOLS AND ETHERS

Multiple Choice Questions Level I

1. The IUPAC name of tert-butyl alcohol is :

A. 2-Butanol

B. 2-Methy-2-propanol

C. 3-Methyl-1-butanol

D. 1-Butanol.

Answer: B

Watch Video Solution

2. Ethylethanoate on reduction with $LiAlH_4$ gives :

A. Butanol

B. Ethanol

C. Ethanoic acid, ethanol

D. Ethanol, propanol.

Answer: B

Watch Video Solution

3. When ketones are treated with Grignard reagent followed by hydrolysis with dilute acid, the product is :

A. Primary alcohol

B. Secondary alcohol

C. Tertiary alcohol

D. All the three.

Answer: C

Watch Video Solution

Watch Video Solution

4. Isopropyl alcohol when treated with copper at 575 K forms :

A. Formaldehyde

B. Acetadehyde

C. Acetone

D. Acetic acid.

Answer: C

Watch Video Solution

5. Which of the following is most acidic ?

A. CH_3OH

B. CH_3CH_2OH

C. $(CH_3)_4CHOH$

D. $(CH_3)_3COH.$

Answer: A

Watch Video Solution

6. Treatment of ethyl alcohol with conc. H_2SO_4 at 443

K gives :

A. Diethyl ether

B. Ethylene

C. Ethyl hydrogen sulphate

D. Acetic acid.

Answer: B

 Watch Video Solution

7. Name the biocatalyst involved in the conversion of glucose into ethanol and carbon dioxide.

A. Diastase

B. Maltase

C. Invertase

D. Zymase.

Answer: D

Watch Video Solution

8. Isopropyl alcohol is oxidised with $K_2Cr_2O_7$ and H_2SO_4 to give :

A. CH_3CHO

B. CH_3COCH_3

C. $CH_3CH_2CH_2COOH$

D. $CH_3CH = CH_2$

Answer: B

Watch Video Solution

9. Tertiary alcohols on treating with copper at 575 K give :

A. Aldehydes

B. Ketones

C. Ethers

D. Alkenes.

Answer: D

Watch Video Solution

10. Which has the highest boiling point ?

A. CH_3OCH_3

B. CH_3CH_2Cl

C. CH_3CH_2OH

D. $CH_3CHO.$

Answer: C

Watch Video Solution

11. In the reaction :

$CH_3CH_2COOH \xrightarrow{P, Br_2} X \xrightarrow{alc.KOH} Y$ Yis

A. Propyne

B. Ethane

C. Propene

D. Propanol.

Answer: C

Watch Video Solution

12. Methyl alcohol and ethyl alcohol can be distiguished by :

A. action of HCl

B. action of NH_3

C. action with blue litmus

D. iodoform test.

Answer: D

Watch Video Solution

13. Primary alcohols are obtained by the action of Grignard reagent with :

A. CH_3COCH_3

B. CH_3CHO

C. $HCHO$

D. $CH_3C_2CHO.$

Answer: C

Watch Video Solution

14. Alkyl halides can be prepared from alcohols by treatment with the following reagents except :

A. HCl in the presence of $ZnCl_2$

B. PBr_3

C. $COCl_2$

D. Cl_2

Answer: D

Watch Video Solution

15. Ethyl alcohol is oxidised with potassium dichromate in the presence of H_2SO_4 to :

A. acetic

B. acetone

C. ethane

D. methane

Answer: A

Watch Video Solution

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

A. CH_3OH

B. C_2H_5OH

C. C_3H_7OH

D. $C_6H_{13}OH$.

Answer: D

Watch Video Solution

17. An organic compound when passed over heated copper at $300^\circ C$ gives an alkene. The compound is :

A. An alkyne

B. Secondary alcohol

C. Tertiary alcohol

D. Ketone.

Answer: C

Watch Video Solution

18. Tonics in general contain :

A. Methanol

B. Ethanol

C. Ether

D. Erectified spirit.

Answer: B

Watch Video Solution

19. The number of isomeric primary alcohols of the molecular formula $C_4H_{10}O$ is :

A. 1

B. 2

C. 3

D. 4

Answer: B

Watch Video Solution

20. Rectified spirit contains about

A. $95\ \%$ sthyl alcohol

B. $95\ \%$ ethyl alcohol

C. $5\ \%$ ethyl alcohol

D. $95\ \%$ of methyl alcohol

Answer: B

Watch Video Solution

21. Which of the following reacts with CH_3MgBr and H_3O^+ to give ethyl alcohol ?

A. Ethene

B. Formaldehyde

C. Acetaldehyde

D. Acetone.

Answer: B

Watch Video Solution

22. The structural formula of 2-ethylprop-2-en-1-ol is :

A. $C_2H_5 - \underset{\underset{CH_2}{||}}{C} - CH_2OH$

B. $CH_2 = \underset{\underset{OH}{|}}{CH} - CH - C_2H_5$

C. $CH_3 - \underset{\underset{C_2H_5}{|}}{C} = CHOH$

D. None of these.

Answer: A

 Watch Video Solution

23. In ethyl alcohol, the bond that undergoes heterolytic cleavage most readily is :

A. $C - C$

B. $C - O$

C. $C - H$

D. $O - H$.

Answer: D

Watch Video Solution

24. When excess vapours of ethyl alcohol are passed over heated alumina $(25^{\circ}C)$, the main product formed is :

A. Ethylene

B. Ethyl alcohol

C. ethane

D. Diethyl ether.

Answer: D

Watch Video Solution

25. Ethylalcohol is industrially prepared from ethylene by :

A. $KMnO_4$ oxidation

B. catalytic reduction

C. fermentation

D. absorbing in H_2SO_4 followed by hydrolysis

Answer: D

Watch Video Solution

26. Methanol is manufactured by passing compressed water gas excess of hydrogen over :

A. platized asbestos

B. hot cobalt chloride

C. finely dicided metal

D. a hot mixture of Zn and Cr oxides.

Answer: D

Watch Video Solution

27. Primary, secondary and tertiary alcohols cannot be distinguished by the action of :

A. reduced copper

B. PCl_5

C. acidic $KMnO_4$

D. HCl in the presence of $ZnCl_2$.

Answer: B

Watch Video Solution

28. On oxidation of an alcohol gives an aldehyde having the same number of carbon atoms as that of alcohol. The alcohol is

A. 1°

B. 2°

C. 3°

D. may be 2° or 3°

Answer: A

Watch Video Solution

29. Which of the following isomers of butanol has a chiral structure ?

A. $(CH_3)_3COH$

B. $(CH_3)_2CHCH_2OH$

C. $CH_3CH(OH)CH_2CH_3$

D. $CH_3(CH_2)_3OH.$

Answer: C

Watch Video Solution

30. Acetaldehyde on reaction with grignard reagent and subsequent hydrolysis gives

A. acetone

B. ethyl alcohol

C. n-propyl alcohol

D. isopropyl alcohol.

Answer: D

Watch Video Solution

31. Denatured alcohol is

A. rectified spirit

B. undistilled ethanol

C. rectified spirit $+10-15\%$ methanol $+$ naphtha $+$ pyridine

D. 50% ethanol $+50\%$ methanol.

Answer: C

Watch Video Solution

32. Heating a mixture of ethyl alcohol and acetic acid in the presence of conc. H_2SO_4 produces a sweet smelling compound. The reaction is called :

A. Neutralisation

B. Ester hydrolysis

C. Esterification

D. Williamson's synthesis.

Answer: C

Watch Video Solution

33. Which of the following reagent will convert propionic acid to 1-propanol

A. $KMnO_4$

B. MnO_2

C. Cr_2O_3

D. $LiAlH_4$

Answer: D

Watch Video Solution

34. Which of the following does not give yellow precipitate with $I_2 / NaOH$?

A. CH_3CHO

B. CH_3COCH_3

C. CH_3CH_2OH

D. $HCHO$

Answer: D

Watch Video Solution

35. Reaction of tert-butylalcohol with hot copper at $350^\circ C$ gives :

A. 2-Butene

B. 2-Methylpropene

C. Butanone

D. Butanal.

Answer: A

Watch Video Solution

36. 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

Watch Video Solution

37. Which of the following has highest boiling point ?

A. Propan-1-ol

B. Butan-2-ol

C. Ethanol

D. Butan-1-ol.

Answer: D

Watch Video Solution

38. The best method for the conversion of an alcohol into an alkyl chloride is by treating the alcohol with

A. PCl_5

B. $SOCl_2$, Pyridine

C. Dry HCl, anhydrous $ZnCl_2$

D. PCl_3.

Answer: B

Watch Video Solution

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

$$R-OH+HCl \xrightarrow{ZnCl_2} R-Cl+H_2O$$

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

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

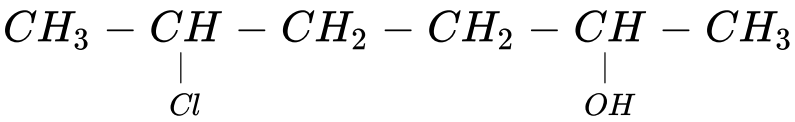
C. $3^\circ > 2^\circ > 1^\circ$

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

Answer: C

Watch Video Solution

40. Give IUPAC name of the compound given below.



A. 2-Chloro-5-hydroxyhexane

B. 2-Hydroxy-5-chlorohexane

C. 5-Chlorohexane-2-ol

D. 2-Chlorohexan-5-ol

Answer: C

Watch Video Solution

41. Which of the following has the highest boiling point?

A. $CH_3\overset{\overset{Cl}{|}}{C}HCH_3$

B. $CH_3CH_2CH_2CH_2OH$

C. $CH_3\underset{\underset{OH}{|}}{C}HCH_2CH_2OH$

D. $CH_3CH_2CH_2CH_2Br.$

Answer: C

Watch Video Solution

42. The IUPAC name of tert-butyl alcohol is :

A. 2-Methylpropan-2-ol

B. 2-Methylbutan-1-ol

C. Propan-2-ol

D. Butan-2-ol.

Answer: A

Watch Video Solution

43. Which of the following is a trihydric alcohol ?

A. n-propyt alcohol

B. Glycerol

C. Glycine

D. Glycol.

Answer: B

Watch Video Solution

44. The compounds which gives the most stable carbonium ion on dehydration is :

A. $(CH_3)CHCH_2OH$

B. $CH_3CHOHCH_2CH_3$

C. $(CH_3)_3COH$

D. $CH_3CH_2CH_2CH_2OH$

Answer: C

Watch Video Solution

45. During dehydration of alcohols to alkenes by heating with conc. H_2SO_4, the initial step is

A. formation of an ester

B. protonation of alcohol molecule

C. formation of carbocation

D. elimination of water

Answer: B

Watch Video Solution

46. Ethylene glycol on oxidation with periodic acid gives

A. Glycollic acid

B. Glycol

C. Oxalic acid

D. Formaldehyde

Answer: D

Watch Video Solution

Watch Video Solution

47. On heating glycerol with $KHSO_4$, a compound is obtained which has a bad odour. The compound is :

A. Formic acid

B. Ethyl alcohol

C. Acrolein

D. Isopropyl iodide :

Answer: C

Watch Video Solution

48. When heated with acidified $KMnO_4$, glycerol gives :

A. Formic acid

B. Oxalic acid

C. Tartonic acid

D. Glyceric acid

Answer: B

 Watch Video Solution

49. Glycerol on strongly heating with oxalic acid at 503 K gives :

A. Allyl alcohol

B. Glyceraldehyde

C. Meso-oxalic acid

D. Acrolein.

Answer: A

Watch Video Solution

50. Glycerol is commercially prepared from.

A. Cumene

B. 1,3-Butadiene

C. Propylene

D. Propamoic acid.

Answer: C

Watch Video Solution

51. On heating salicylic acid with soda lime the product obtained is

A. Salicylc acid

B. oethyl phenol

C. phenol

D. enzaldehyde

Answer: C

Watch Video Solution

52. When phenol is treated with Br_2 in the presence of CS_2 at low temperature, the product is :

A. 2, 4, 6-tribromophenol

B. 4-bromophenol

C. 2, 4 - Dibromophenol

D. Bromobenzene.

Answer: B

Watch Video Solution

53. $(CH_3)_3COH$ on heating with copper at 573 K gives

A. CH_3COCH_3, CO_2

B. CH_3CH_2COOH, CH_3COOH

C. $CH_3 - \underset{\underset{CH_3}{|}}{C} = CH_2$

D. $CH_3COCH_3, CH_3COOH.$

Answer: B

Watch Video Solution

54. When phenol is treated with conc. HNO_3 in the presence of conc. H_2SO_4, the product is :

A. Picric acid

B. p-Nitrophenol

C. o-Nitrophenol

D. m-Nitrophenol.

Answer: A

Watch Video Solution

55. Which of the following is most acidic ?

A. Phenol

B. m-cresol

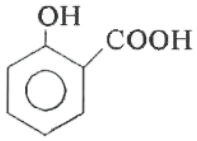
C. o-cresol

D. o-nitrophenol.

Answer: D

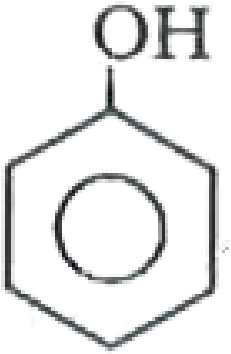
Watch Video Solution

56. Which of the following does not give effervescence with Na_2CO_3 ?

A. 

B. CH_3COOH

C. CH_3CH_2COOH

D. 

Answer: D

Watch Video Solution

57. Picric acid is :

A. $2, 4, 6 -$ Trinitrophenol

B. $2, 4, 6 -$ Trinitroaniline

C. $2, 4, 6 -$ Trinitrotoluene

D. $2, 4 -$ Dinitrophenol

Answer: A

Watch Video Solution

58. Phenol can be industrially prepared from cumene.

It is :

A. Isopropyl benzene

B. o-Dimethylbenzene

C. Phenyl acetate

D. 2-Acetoxybenzoic acid.

Answer: A

 Watch Video Solution

59. When phenol is heated with phthalic anhydride in the presence of conc. H_2SO_4, the product is :

A. Methyl orange

B. Phthalic acid

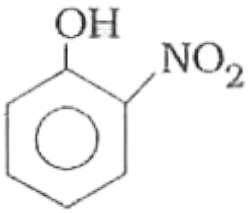
C. Phenol phthalein

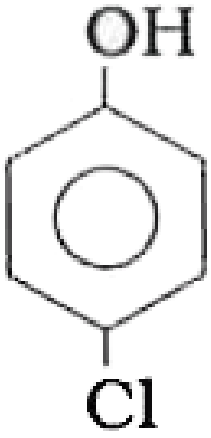
D. Bakelite.

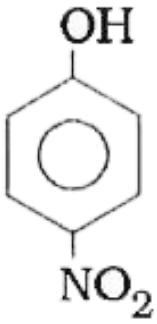
Answer: C

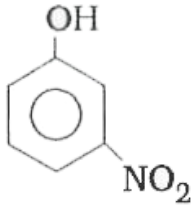
Watch Video Solution

60. Which of the following is strongest acid ?

A. 

B. 

C. 

D. 

Answer: C

Watch Video Solution

61. Which of the following is more acidic than phenol ?

A. m-Cresol

B. m-Methoxy phenol

C. o-Methoxy phenol

D. Ethyl alcohol

Answer: B

Watch Video Solution

62. Para-bromophenol can prepared by treating phenol with :

A. aqueous Br_2

B. Br_2 in the presence of sunlight

C. Br_2 in the presence of $FeCl_3$

D. Br_2 in the presence of non-polar solvent.

Answer: D

Watch Video Solution

63. How is phenol converted into salicylaldehyde?

A. Etard reaction

B. Kolbe's reaction

C. Reimer-Tiemann reaction

D. Cannizzaro reaction.

Answer: C

Watch Video Solution

64. Phenol is most easily soluble in :

A. sodium hydroxide solution

B. dil. HCl

C. both $NaOH$ Solution and dil. HCl

D. sodium carbonate solution

Answer: A

Watch Video Solution

65. The increasing order of acidity among : phenol p-methyl phenol, m-nitrophenol and p-nitrophenol is :

A. phenol, p-methyl phenol, p-nitrophenol, m-nitrophenol

B. p-methyl phenol, phenol, m-nitrophenol, p-nitrophenol

C. p-methyl phenol, m-nitrophenol, phenol, p-nitrophenol

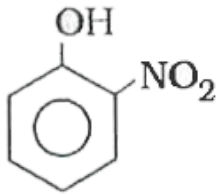
D. m-nitrophenol, p-nitrophenol, phenol p-methyl phenol.

Answer: B

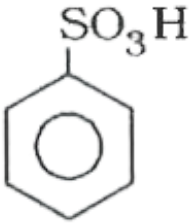
 Watch Video Solution

66. Which of the following will not be soluble in sodium carbonate solution ?

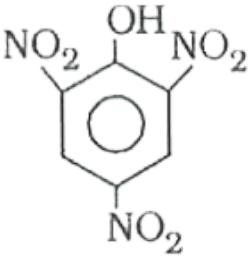
A.



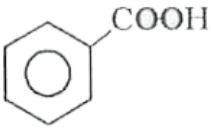
B.



C.



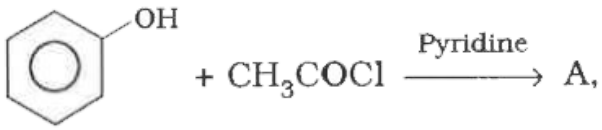
D.



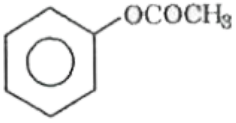
Answer: A

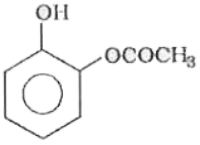
Watch Video Solution

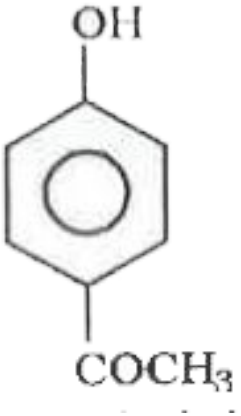
67. In the reaction



A is :

A. 

B. 

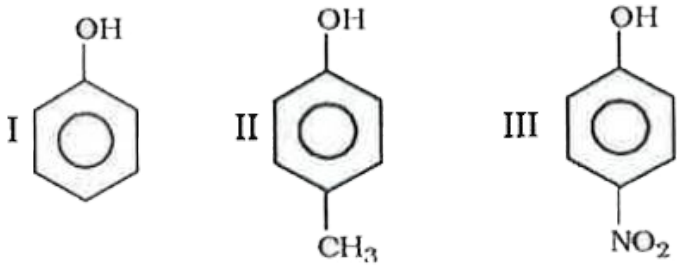
C. 

D. both (B) and (C)

Answer: A

Watch Video Solution

68. The correct acidic order of the following is :



A. $I > II > III$

B. $III > I > II$

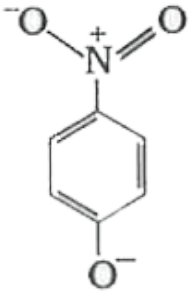
C. $II > III > I$

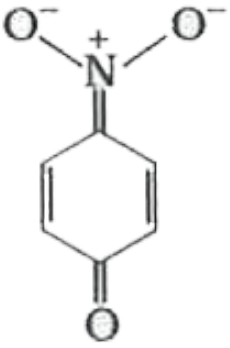
D. $I > III > II.$

Answer: B

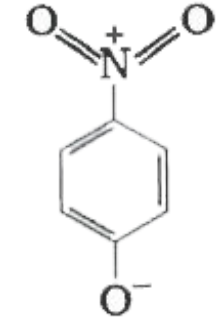
Watch Video Solution

69. The most ublikely representation of resonance structures of p-nitrophenoxide ion is :

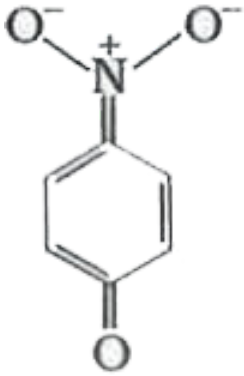
A. 

B. 

C.



D.



Answer: C

Watch Video Solution

70. Cumene on oxidation in the presence of air followed by treatment with dil acid gives :

A. Phenol and ethanol

B. Benzaldehyde and phenol

C. Phenol and acetone

D. Phenol and benzoic acid.

Answer: C

Watch Video Solution

71. Which statement is incorrect ?

A. Phenol is a weak acid.

B. Phenol is an aromatic compound.

C. Phenol liberates CO_2 from Na_2CO_3 solution.

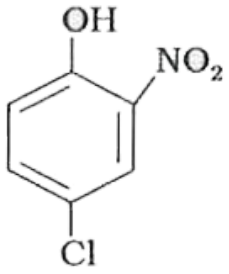
D. Phenol is soluble in $NaOH$.

Answer: C

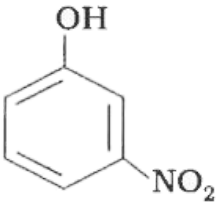
Watch Video Solution

72. Most acidic amongst the following is :

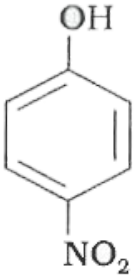
A.



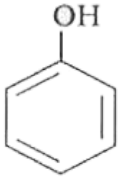
B.



C.



D.



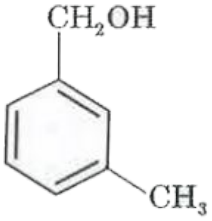
Answer: C

Watch Video Solution

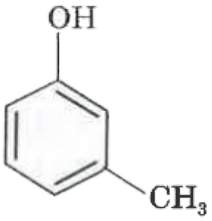
73. Which of the following compounds is aromatic alsohol ?

(I)

(II)



(III)



(IV)

A. I,II,III,IV

B. I,IV

C. II,III

D. I

Answer: C

Watch Video Solution

74. Which compound is known as oil of winter green ?

A. Phenyl benzoate

B. Phenyl salicylate

C. Phenyl acetate

D. Methyl salicylate

Answer: D

Watch Video Solution

75. When phenol is treated with $CHCl_3$ and $NaOH$, the product formed is

A. Benzaldehyde

B. Salicylaldehyde

C. Salicylic acid

D. Benzoic acid

Answer: B

Watch Video Solution

76. Diethyl ether can be decomposed by heating with

A. $KMnO_4$

B. $NaOH$

C. HI

D. H_2O

Answer: C

Watch Video Solution

77. Williamson's synthesis can be used to prepare

A. diethyl ether

B. phenol

C. acetone

D. ethanol.

Answer: A

Watch Video Solution

78. Sometimes exlosion occurs during the distillation of ethers. It is due to the presence of :

A. Oxides

B. Peroxides

C. Anisole

D. Cresol.

Answer: B

Watch Video Solution

79. The compound which is not isomeric with diethyl ether is :

A. n-Propyl methyl ether

B. 2-Methyl propan-2-ol

C. Butanone

D. Butan-1-ol.

Answer: C

Watch Video Solution

80. Diethyl ether absorbs oxygen to form :

A. Acetic acid

B. Ether peroxide

C. Ethyl alcohol

D. Epoxy ethane.

Answer: B

Watch Video Solution

81. Which of the following gives anisole ?

A. Phenyl and methyl chloride.

B. Benzyl alcohol and sodium hydroxide.

C. Aniline with nitrous acid.

D. Sodium phenoxide and methyl chloride.

Answer: D

Watch Video Solution

82. Ethoxyethane does not react with :

A. conc. H_2SO_4

B. PCl_5

C. HI

D. Na.

Answer: D

Watch Video Solution

83. Ethers can be distinguished from alcohols by the following reaction :

A. reaction with Na

B. reaction with PCl_5

C. reaction with 2, 4-dinitrophenyl hydrazine

D. none of these.

Answer: A

Watch Video Solution

84. The molecular formula of ether is :

A. $C_nH_{2n+1}O$

B. $C_nH_{2n}O$

C. $C_nH_{2n}OC_nH_{2n}$

D. $C_nH_{2n+2}O$

Answer: C

Watch Video Solution

85. The major organic product in the reaction

$CH_3 - O - CH(CH_3)_2 + HI \rightarrow$ Product is

A. $ICH_2OCH(CH_3)_2$

B. $CH_3O\underset{\underset{I}{|}}{C}(CH_3)_2$

C. $CH_3I + (CH_3)_2CHOH$

D. $CH_3OH + (CH_3)_2CHI$

Answer: C

Watch Video Solution

Multiple Choice Questions Level Ii

1. The treatment of sodium phenoxide with CO_2 at 400K and 4-7 atmosphere pressure followed by acidification of the reaction product gives :

A. Salicylaldehyde

B. Salicylic acid

C. Cumene

D. Benzaldehyde.

Answer: B

Watch Video Solution

2. Phenol gives salicylaldehyde on heating with $CHCl_3$ and $NaOH$. The reaction is known as :

A. Reimer Tiemann reaction

B. Kolbe's reaction

C. Sandmeyer's reaction

D. Cannizzaro 's reaction

Answer: A

Watch Video Solution

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

A. $(CH_3)_3COH$

B. $(CH_3)_2CHCH_2OH$

C. $(CH_3)_2CHOH$

D. $CH_3OH.$

Answer: A

Watch Video Solution

4. Which of the following is most acidic ?

A. CH_3CH_2OH

B. $(CH_3)_2CHOH$

C. C_6H_5OH

D. $CH_3OH.$

Answer: C

Watch Video Solution

5. Sec-bytyl alcohol on heating with conc. H_2SO_4 at 443 K gives :

A. sec-butyl hydrogen sulphate

B. 2-Butene

C. 1-Butete

D. Ethoxy ethane.

Answer: B

Watch Video Solution

6. Phenol can be distinguished from alcohols with :

A. Schiff's base

B. Tollen's reagent

C. $FeCl_3$

D. Lime water.

Answer: C

Watch Video Solution

7. The acylation of salicylic acid with acetic anhydride gives :

A. Aspirin

B. Salicylaldehyde

C. Benzaldehyde

D. Benzoic acid

Answer: A

Watch Video Solution

8. HBr reacts fastest with

A. 1-propanol

B. 2-propanol

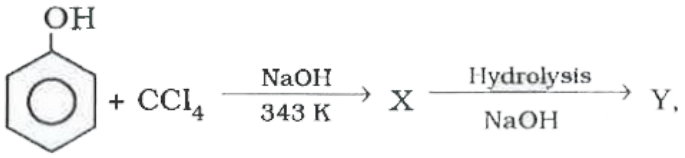
C. 2-methyl-2-propanol

D. 2-Methyl-1-propanol

Answer: C

Watch Video Solution

9. In the reaction



Y is :

A. Salicylaldehyde

B. Salicylic acid

C. o-Cresol

D. Benzoic acid

Answer: B

Watch Video Solution

10. Primary, secondary and tertiary alcohols can be distinguished by :

A. Fehling solution test

B. Hofmann test

C. Dye test

D. Victor Meyer's test.

Answer: D

 Watch Video Solution

11. In the reaction :

$$X \xrightarrow[443K]{H_2SO_4} Y \xrightarrow{HBr} Z \xrightarrow[H_2O]{KOH} CH_3\underset{\underset{OH}{|}}{C}HCH_3$$ X is :

A. $CH_3CH_2CH_2OH$

B. $CH_3 - \underset{\underset{OH}{|}}{\overset{\overset{CH_3}{|}}{C}} - HCH_3$

C. CH_3CH_2OH

D. $CH_3\underset{\underset{OH}{|}}{C}H - CH_3$

Answer: A

Watch Video Solution

12. Acetyl chloride reacts with phenol in the presence of dil. Alkali to give

A. o-hydroxy benzaldehyde

B. m-hydroxybenzaldehyde

C. Phenyl acetate

D. pheny benzoate

Answer: C

Watch Video Solution

13. The correct IUPAC name of the compound $CH_3CH(C_2H_5)CH_2CH(OH)CH_3$ is :

A. 2-Ethyl-4-pentanol

B. 2-Hydroxy-4-methyl pentane

C. 4-Ethyl-2-pentanol

D. 4-Methyl-2-hexanol.

Answer: D

Watch Video Solution

14. Water gas when mixed with half of its volume of hydrogen and passed over a catalyst mixture of oxides of zinc, copper and chromium under 200 atm. Pressure of 623-675 K gives :

A. Phenol

B. Methanol

C. Formaldehyde

D. Dioxane.

Answer: B

Watch Video Solution

15. Which of the follwing is most easily dehydrated ?

A. CH_3CHCH_2OH
$|$
CH_3

B. $CH_3 - CHCH_3$
$|$
CH_2OH

C. $(CH_3)_3COH$

D. $CH_3CHOHCH_3$.

Answer: C

Watch Video Solution

16. Which of the following alcohols cannot be prepared by the action of a suitable Grignard reagent

as an aldehyde or a ketone followed by hydrolysis ?

A. Ethyl alcohol

B. Isopropyl alcohol

C. n-Propyl alcohol

D. Methanol.

Answer: D

Watch Video Solution

17. Which of the following compounds is obtained by the reaction of phenol and benzene diazonium chloride ?

A. Azobenzene

B. Aniline

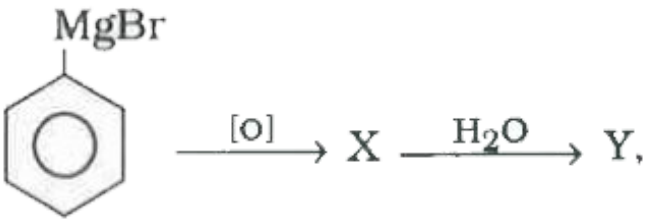
C. Chlorobenzene

D. p-Hydroxyazobenzene

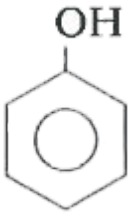
Answer: D

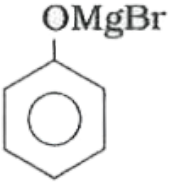
Watch Video Solution

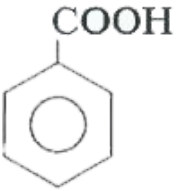
18. In the reaction

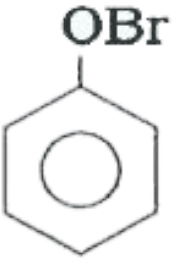


Y is

A. 

B. 

C. 

D. 

Answer: A

Watch Video Solution

19. Benzene reacts with propene in the presence of H_3PO_4 at 523 K to give :

A. anisole

B. 3-phenyl propene-1

C. cumene

D. Phenol.

Answer: C

Watch Video Solution

Watch Video Solution

20. Which of the following alcohols has minium reactivity with sodium metal ?

A. n-Buty alcohol

B. 2-Methyl-2-butanol

C. Iso-butyl alcohol

D. Iso propyl alcohol.

Answer: B

Watch Video Solution

21. In the reaction :

$$X \xrightarrow[H_2SO_4]{K_2Cr_2O_7} (CH_3)CO \xrightarrow{O} CH_3COOH,$$ the compound X is :

A. Ethyl alcohol

B. Isopropyl alcohol

C. Tert-butyl alcohol

D. n-Propyl alcohol.

Answer: B

Watch Video Solution

22. Which of the following methods does not give phenol ?

A. $C_6H_5Cl \xrightarrow[643\ \text{K},200\ \text{atm}]{NaOH}$

B. 

C. $C_6H_5MgBr \xrightarrow[H^+]{H_2O}$

D. $C_6H_5N_2{}^+Cl^- \xrightarrow[H_2O]{H^+}$

Answer: C

Watch Video Solution

23. Saponification means hydrolysis of an ester with :

A. dil. H_2SO_4

B. dil. $NaOH$

C. enzymes

D. soaps.

Answer: D

Watch Video Solution

24. Widespread deaths due to liquor poisoning are because of the :

A. presence of methyl alcohol

B. presence of bad smelling compound in liquor

C. presence of ethyl alcohol

D. presence of traces of water.

Answer: A

Watch Video Solution

25. An equimolar quantities of ethanol and methanol are heated with conc. H_2SO_4. The product formed is :

A. CH_3OCH_3

B. $C_2H_5OCH_3$

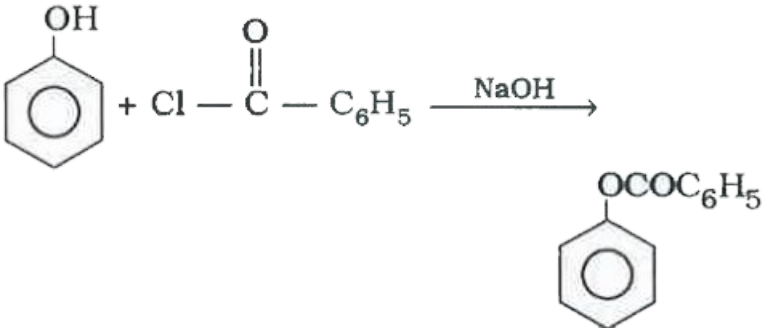
C. $C_2H_5OC_2H_5$

D. all the three.

Answer: D

Watch Video Solution

26. The reaction :



is an example of

A. Schotten Baumann reaction

B. Friedel Craft's reaction

C. Etard reaction

D. Perkin reaction.

Answer: A

Watch Video Solution

27. Which of the following is most acidic ?

A. Phenol

B. Ethyl alcohol

C. Picric acid

D. p-Nitrophenol.

Answer: C

Watch Video Solution

28. How many isomeric acyclic alcohols and ethers are possible for C_4H_8O ?

A. 3

B. 4

C. 5

D. 8

Answer: D

Watch Video Solution

29. What is formed when primary alcohol undergoes catalytic dehydrogenation ?

A. Aldehyde

B. Ketone

C. Alkene

D. Acid.

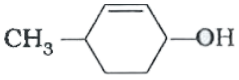
Answer: A

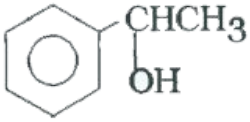
Watch Video Solution

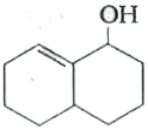
Watch Video Solution

30. An example of benzylic alcohol is :

A. $CH_3CH = CHCH_2OH$

B. 

C. 

D. 

Answer: C

Watch Video Solution

31. In the reaction.

$$C_6H_5Br + Mg \xrightarrow{\text{Ether}} A + CH_3COCH_3 \rightarrow B \xrightarrow[H_2O]{H^+} C$$

, C is :

A. 2-Phenyl-2-butanol

B. 2-Phenyl-2-propanol

C. Dimethyl benzene

D. 1-Methyl-1-phenyl-ethanol.

Answer: B

Watch Video Solution

32. The most reactive alcohol towards hydrogen halides is :

A. CH_3CH_2OH

B. $CH_3\overset{CH_3}{\overset{|}{C}}HOH$

C. $(CH_3)_3COH$

D. $CH_2 = CH - CH_2OH$

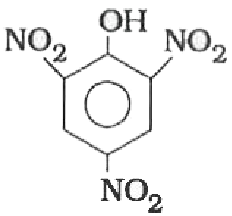
Answer: D

Watch Video Solution

33. Nitroglycerine is an explosive substance. Its formula is :

A. CH_2NO_2
$|$
$CHNO_2$
$|$
CH_2NO_2

B. CH_2ONO_2
$|$
$CHONO_2$
$|$
CH_2ONO_2

C. 

D.
$$\begin{array}{c} CH_2ONO_2 \\ | \\ NO_2OH_2CCCH_2ONO_2 \\ | \\ CH_2ONO_2 \end{array}$$

Answer: B

Watch Video Solution

34. In the reaction :

$$CH_3\underset{\underset{OH}{|}}{CH}CH_2CH_3 \xrightarrow{H_2CrO_4} A \xrightarrow[(ii)\,H^+, H_2O]{(i)\,CH_3CH_2CH_2MgBr} B$$

, the product B is :

A. $CH_3CH_2CH_2\overset{\overset{OH}{|}}{\underset{\underset{CH_3}{|}}{C}} - CH_2CH_3$

B. $CH_3CH_2\overset{\overset{OH}{|}}{\underset{\underset{H}{|}}{C}} - CH_2 - CH_3$

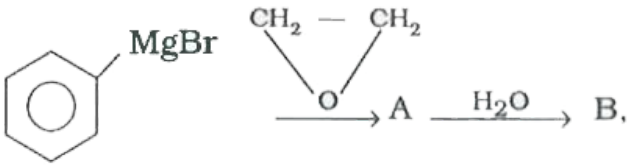
C. $CH_3CH_2CH_2\underset{\underset{OH}{|}}{CH}CH_2CH_3$

D. $CH_3CH_2\overset{\overset{OH}{|}}{\underset{\underset{CH_2CH_3}{|}}{C}} - CH_2CH_3$

Answer: A

Watch Video Solution

35. In the reaction



the product B is :

A. Phenol

B. 2-Phenyl ethanol

C. Benzyl alcohol

D. Resorcinol.

Answer: B

Watch Video Solution

36. Methanol is manufactured by passing compressed water gas with excess of hydrogen over :

A. platinised asbestos

B. hot cobalt chloride

C. finely divided nickel

D. a hot mixture of zinc and chromium oxide.

Answer: D

Watch Video Solution

Watch Video Solution

37. Which of the following intermediate is formed in the acid catalysed dehydration of n-propyl alcohol ?

A. $CH_3CH_2CH_2^-$

B. $CH_3\overset{-}{C}HCH_3$

C. $CH_3\overset{+}{C}HCH_3$

D. $CH_3CH_2CH_2^+$.

Answer: D

Watch Video Solution

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

A. primary alcohol

B. sec. alcohol

C. aldehyde

D. ketone.

Answer: A

Watch Video Solution

39. Which of the following reagents will convert glycerol to acrolein ?

A. P_2O_5

B. Conc. H_2SO_4

C. $KHSO_4$

D. Anhydrous $CaCl_2$.

Answer: C

Watch Video Solution

40. Which of the following is used as an antifreeze ?

A. ethyl alcohol

B. methanol

C. glycol

D. glycine.

Answer: C

Watch Video Solution

41. The reaction :

$$\underbrace{CO + H_2}_{\text{Water gas}} + H_2 \xrightarrow[673\ \text{K},\ 300\ \text{atm}]{Cr_2O_3,\ ZnO}$$ may be used for the manufacture of

A. $HCHO$

B. $HCOOH$

C. CH_3OH

D. $CH_3COOH.$

Answer: C

Watch Video Solution

42. The compound which does not change the orange colour of chromic acid (i.e. chromic anhydride in H_2SO_4) to blue green is :

A. 2° alcohol

B. 1° alcohol

C. 3° alcohol

D. none of these.

Answer: C

Watch Video Solution

43. When 3,3-dimethyl butan-2-ol is heated with conc. H_2SO_4, then main product formed is :

A. 3,3-dimethylbut-1-ene

B. 2,3-dimethylbut-2-ene

C. 2,3-dimethybut-1-ene

D. cis and trans isomer of product obtained in (C).

Answer: B

Watch Video Solution

44. Consider the following alcohols :

(1) 1-Phenyl-1-propanol

(2) 3-Pheny-1-propanol

(3) 1-Phenyl-2-propanol

The correct sequence of increaseing order of reactivity of these alcohols in their reaction with HBr is

A. (1), (2), (3)

B. (2), (1), (3)

C. (1), (3), (2)

D. (2), (3), (1)

Answer: C

Watch Video Solution

45. Which one of the following reaction will yield 2-propanol ?

(I) $CH_2 = CH - CH_3 + H_2O \xrightarrow{H+}$

(II) $CH_3CHO \xrightarrow[H_2O]{CH_3MgI}$

(III) $HCHO \xrightarrow[H_2O]{C_2H_5MgI}$

(IV) $CH_2 = CH - CH_3 \xrightarrow{\text{Neutral } KMnO_4}$

A. I and II

B. II and III

C. III and I

D. II and IV

Answer: A

Watch Video Solution

46. Acetyl chloride does not react with

A. diethyl ether

B. aniline

C. phenol

D. ethanol

Answer: A

Watch Video Solution

47. 1-Phenyl ethanol can be prepared by reaction of benzaldehyde with :

A. CH_3Br

B. ethyl iodide and magnesium

C. methyl bromide and aluminium bromide

D. methyl iodide and magnesium.

Answer: D

Watch Video Solution

48. Which of the following will give phenol with CaO and $NaOH$?

A. Salicylic acid

B. Picric acid

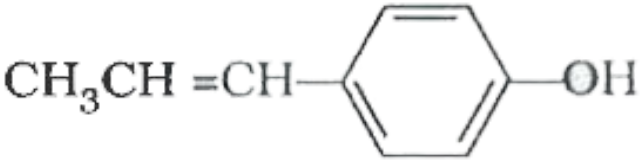
C. Benzoic acid

D. Amino acid.

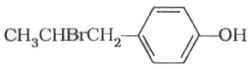
Answer: A

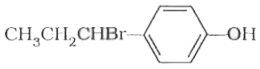
Watch Video Solution

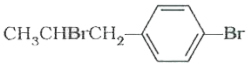
49. The reaction of :

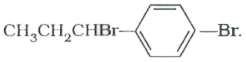


with HBr gives

A. 

B. 

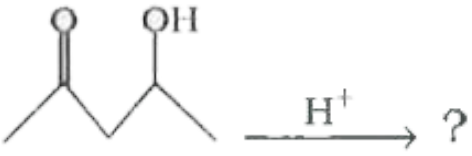
C. 

D. 

Answer: B

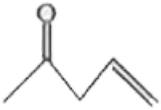
Watch Video Solution

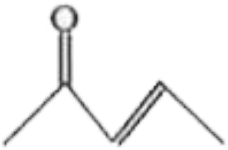
50. In the reaction :

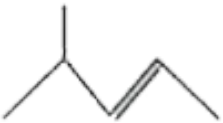


The product is

A. 

B. 

C. 

D. 

Answer: C

Watch Video Solution

51. Propan-1-ol can be prepared by reaction of propene with :

A. H_3BO_3

B. $B_2H_6 / NaOH - H_2O_2$

C. H_2SO_4 / H_2O

D. $CH_3 - \overset{\overset{O}{||}}{C} - O - O - H$

Answer: B

Watch Video Solution

52. Among the following compounds, the strongest acid is :

A. $HC \equiv CH$

B. C_6H_6

C. C_2H_6

D. $CH_3OH.$

Answer: D

Watch Video Solution

53. When iso-butyl magnesium bromide in dry ether is treated with absolute ethyl alcohol, the products formed are :

A. $CH_3\underset{\underset{CH_3}{|}}{CH} - CH_2OH, CH_3CH_2MgBr$

B. $CH_3\underset{\underset{CH_3}{|}}{CH} - CH_3, CH_3CH_2OMgBr$

C. $CH_3\underset{\underset{CH_3}{|}}{CH} - CH_3, CH_2 = CH_2$ and $Mg(OH)Br$

D. $CH_3\underset{\underset{CH_3}{|}}{CH} - CH_2CH_2CH_3$ and $Mg(OH)Br$

Answer: B

Watch Video Solution

54. $CH_3-\underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{C}}-\underset{\underset{CH_3}{|}}{CH}-OH \xrightarrow{\text{Conc. } H_2SO_4} A$ major product is :

A. $(CH_3)_3CCH=CH_2$

B. $(CH_3)_3C=C(CH_3)_2$

C. $CH_2=\underset{\underset{CH_3}{|}}{C}-CH_2CH_2CH_3$

D. $CH_3-\underset{\underset{CH_3}{|}}{CH}-CH=\underset{\underset{CH_3}{|}}{C}-CH_3$

Answer: B

Watch Video Solution

55. Which of the following gives most stable carbocation on dehydration ?

A. $CH_3CH_2CH_2CH_2OH$

B. CH_3CHCH_2OH
$\quad\quad\quad |$
$\quad\quad CH_3$

$\quad\quad CH_3$
$\quad\quad\quad |$
C. $CH_3\ C\ -OH$
$\quad\quad\quad |$
$\quad\quad CH_3$

$\quad\quad CH_3$
$\quad\quad\quad |$
D. $CH_3\ C\ -CH_2-CH_2-CH_2OH$
$\quad\quad\quad |$
$\quad\quad CH_3$

Answer: C

Watch Video Solution

56. Which of the following is the correct order of increasing boiling points of the following :

I : Pentan-1-ol II : n-Butane

III : Pentanal IV : Ethoxy ethane

A. $II < IV < III < I$

B. $II < III < IV < I$

C. $I < II < III < IV$

D. $II < I < III < IV.$

Answer: A

Watch Video Solution

57. The correct order of increasing acid strength of the following compounds :

I. 4-Mrthylphenol II. 3-Nitrophenol

III. 2,4,6- Trinitrophenol IV . Propan-1-ol is

A. $IV < II < I < III$

B. $I < II < III < IV$

C. $IV < I < II < III$

D. $IV < III < II < I.$

Answer: C

Watch Video Solution

58. Which of the following order of acid strength is correct ?

A. $RCOOH > ROH > HOH > HC \equiv CH$

B. $RCOOH > HOH > ROH > HC \equiv CH$

C. $RCOOH > HOH > HC \equiv CH > ROH$

D. $RCOOH > HC \equiv CH > HOH > ROH.$

Answer: B

Watch Video Solution

59. Which of the following will not from a yellow precipitate on heating with an alkaline solution of iodine ?

A. $CH_3CH_2CH(OH)CH_3$

B. CH_3OH

C. CH_3CH_2OH

D. $CH_3CH(OH)CH_3$

Answer: B

Watch Video Solution

60. The major organic product in the reaction

$CH_3 - O - CH(CH_3)_2 + HI \rightarrow$ Product is

A. $ICH_2OCH(CH_3)_2$

B. $CH_3OC(CH_3)_2$ with I below the C

C. $CH_3I + (CH_3)_2CHOH$

D. $CH_3OH + (CH_3)_2CHI$

Answer: C

Watch Video Solution

61. Ethylene oxide when treated with Grignard reagent yields :

A. tertiary alcohols

B. cyclopropyl alcohol

C. primary alcohol

D. secondary alcohol

Answer: C

 Watch Video Solution

62. In the reaction :

$$CH_3 - \overset{\overset{CH_3}{|}}{CH} - CH_2 - O - CH_2 - CH_3 + HI \xrightarrow{\text{Heated}}$$

Which of the following compounds will be formed ?

A. $CH_3 - \underset{\underset{CH_3}{|}}{CH} - CH_3 + CH_3CH_2OH$

B. $CH_3 - \underset{\underset{CH_3}{|}}{CH} - CH_2OH + CH_3CH_3$

C. $\overset{\overset{CH_3}{|}}{CH_3 - CH} - CH_2OH + CH_3 - CH_2 - 1$

D. $\overset{\overset{CH_3}{|}}{CH_3 - CH} - CH_2 - I + CH_3CH_2OH.$

Answer: C

Watch Video Solution

63. The best combination of reagents for carrying out the conversion

$$RCH_2CH_2OH \rightarrow RCH_2CH_2COOH$$

A. PBr_3, KCN, H_3O^+

B. $PBr_3, KCN, H_2/Pt$

C. KCN, H_3O^+

D. PBr_3, H_3O^+

Answer: A

Watch Video Solution

64. Consider the following reaction :

$\text{Ethanol} \xrightarrow{PBr_3} X \xrightarrow{\text{alc. KOH}} Y \xrightarrow[(ii)\, H_2O,\, \Delta]{(i)\, H_2SO_4} Z$ The product Z is

A. $CH_3CH_2OCH_2CH_3$

B. $CH_3CH_2O - SO_3H$

C. CH_3CH_2OH

D. $CH_2 = CH_2.$

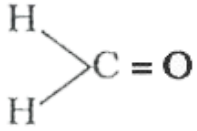
Answer: C

Watch Video Solution

65. $HOCH_2CH_2OH$ on heating with periodic acid gives

A. $2HCOOH$

B. $\begin{matrix} CHO \\ | \\ CHO \end{matrix}$

C. 

D. $2CO_2$.

Answer: C

Watch Video Solution

66. $\text{Phenol} \xrightarrow{\text{Zn. dust}} X \xrightarrow[\text{Anhyd. } AlCl_3]{CH_3Cl} Y \xrightarrow[KMnO_4]{\text{Alkaline}} Z$

The product Z is

A. Benzaldehyde

B. Benzoic acid

C. Benzene

D. Toluene

Answer: B

Watch Video Solution

67. 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

Watch Video Solution

68. The process of converting alkyl halides into alcohols involves _____ .

A. addition reaction

B. substitution reaction

C. dehydrohalogenation reaction

D. rearrangement reaction

Answer: B

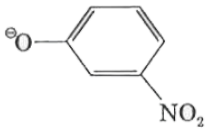
Watch Video Solution

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

A. $^{\Theta}OH$

B. $^{\Theta}OR$

C. $^{\Theta}OC_6H_5$

D. 

Answer: B

Watch Video Solution

70. Which of the following compounds will react with sodium hydroxide solution in water ?

A. C_6H_5OH

B. $C_6H_5CH_2OH$

C. $(CH_3)_3COH$

D. C_2H_5OH

Answer: A

Watch Video Solution

71. Which of the following is most acidic ?

A. Benzyl alcohol

B. Cyclohexanol

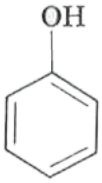
C. Phenol

D. m-Chlorophenol

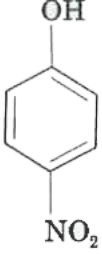
Answer: D

Watch Video Solution

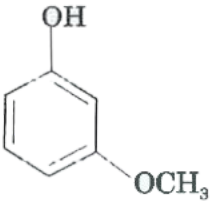
72. Mark the correct order of decreasing acid strength of the following compounds.



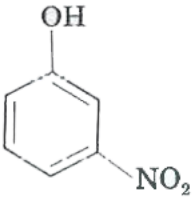
(I)



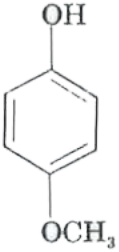
(II)



(III)



(IV)



(V)

A. $V > IV > II > I > III$

B. $II > IV > I > III > V$

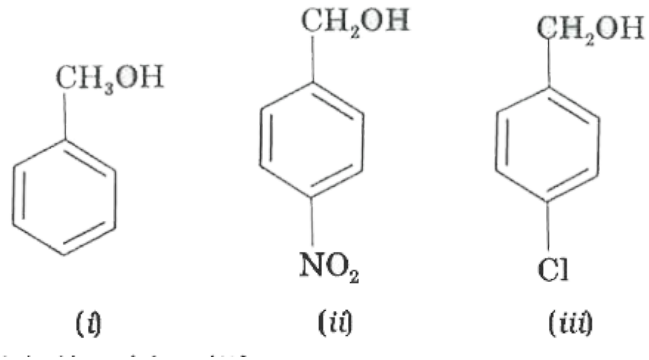
C. $IV > V > III > II > I$

D. $V > IV > III > II > I$

Answer: B

Watch Video Solution

73. Mark the correct increasing order of reactivity of the following compounds with HBr / HCl.



(i) (ii) (iii)

A. (i) $<$ (ii) $<$ (iii)

B. (ii) $<$ (i) $<$ (iii)

C. (ii) $<$ (iii) $<$ (i)

D. (iii) $<$ (ii) $<$ (i)

Answer: C

Watch Video Solution

74. Which one/ones of the following reactions will give 2-propanol ? Choose the right answer from (A), (B), (C) and (D)

I. $CH_2 = CH - CH_3 + H_2O \xrightarrow{H^+}$

II. $CH_3CHO \xrightarrow[(ii)\, H_2O]{(i)\, CH_3MgI}$

III. $CH_2O \xrightarrow[(ii)\, H_2O]{(i)\, CH_3MgI}$

IV. $CH_2 = CH - CH_3 \xrightarrow{\text{Neutral } KMnO_4}$

A. I and II

B. II and III

C. III and I

D. II and IV

Answer: A

Watch Video Solution

75. The general formula which represents the homologous series of alkanols is :

A. $C_nH_{2n}O$

B. $C_nH_{2n+1}O$

C. $C_nH_{2n+2}O$

D. $C_nH_{2n}O_2$

Answer: C

Watch Video Solution

76. In the reaction :

$$CH_3 - \underset{\underset{CH_3}{|}}{CH} - CH_2 - O - CH_2 - CH_3 + HI \xrightarrow{\text{Heat}}$$

A. $CH_3\underset{\underset{CH_3}{|}}{CH} - CH_2OH + CH_3CH_3$

B. $CH_3\underset{\underset{CH_3}{|}}{CH} - CH_2OH + CH_3CH_3$

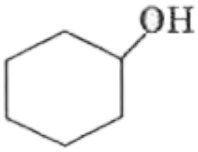
C. $CH_3 - \underset{\underset{CH_3}{|}}{CH} - CH_2OH + CH_3CH_3I$

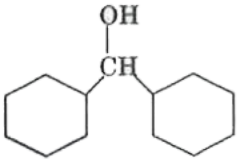
D. $CH_3 - \underset{\underset{CH_3}{|}}{CH} - CH_2 - I + CH_3CH_2OH$

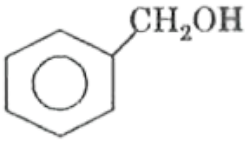
Answer: C

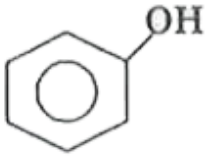
Watch Video Solution

77. Which one of the following compounds has the most acidic nature ?

A. 

B. 

C. 

D. 

Answer: D

Watch Video Solution

78. Given are cyclohexanol (I), acetic acid (II) 2,4,6-trinitrophenol (III) and phenol (IV). In these the order of decreasing acidic character will be :

A. $II > III > IV > I$

B. $III > IV > II > I$

C. $III > II > IV > I$

D. $III > II > I > IV$

Answer: C

Watch Video Solution

79. The compound which gives turbidity immediately with Lucas reagent at room temperature is

A. butan-1-ol

B. Butan-2-ol

C. 2-methypropan-2-ol

D. 2-methyl propan-1-ol

Answer: C

Watch Video Solution

80. Phenol can be converted to o-hydroxybenzaldehyde by

A. Kolbe's reaction

B. Reimer -Tiemann reaction

C. Wurtz reaction

D. Cannizzaro reaction.

Answer: B

Watch Video Solution

Watch Video Solution

Multiple Choice Questions Level Iii

1. The major product obtained on interaction of phenol with $NaOH$ and CO_2 is

A. Benzoic acid

B. Salicylaldehyde

C. Salicylic acid

D. Phthalic acid

Answer: C

Watch Video Solution

2. Phenol is heated with a solution of mixture of KBr and $KBrO_3$. The major product obtained in the abive reaction is :

A. 4-Bromophenol

B. 2,4,6-Tribromophenol

C. 2-Bromophenol

D. 3-Bromophenol

Answer: B

Watch Video Solution

3. The correct order of acid strength of the following compounds :

(I) Phenol (II) p-Cresol

(III) m-Nitrophenol (IV) p-Nitrophenol is :

A. $IV > III > I > II$

B. $II > IV > I > III$

C. $I > II > IV > III$

D. $III > II > I > IV$

Answer: A

Watch Video Solution

4. Which of the following reagents may be used to distinguish between phenol and benzoic acid ?

A. Molisch reagent

B. Neutral $FeCl_3$

C. Aqueous $NaOH$

D. Tollen's reagent.

Answer: B

Watch Video Solution

5. Ortho- nitrophenol is less soluble in water than p- and m-nitrophenols because :

A. Melting point of o-Nitrophenol is lower than those of m-and o-isomers.

B. o-Nitrophenol is more volatile in steam than those of m-and p-isomers.

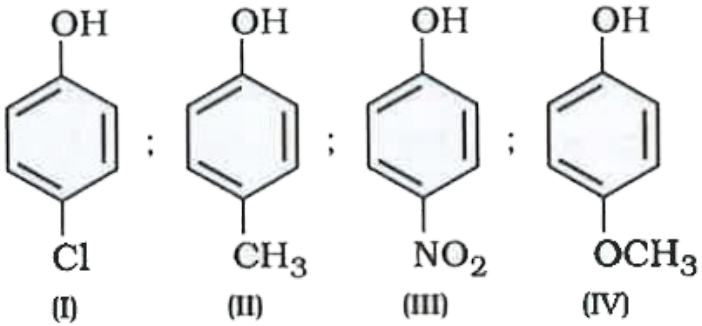
C. o-Nitrophenol shows Intramolecular H-bonding.

D. o-Nitrophenol shows Intermolecular H-bonding.

Answer: C

Watch Video Solution

6. Arrange the following compounds in order of decreasing acidity :



A. $II > IV > I > III$

B. $I > II > III > IV$

C. $III > I > II > IV$

D. $IV > III > I > II.$

Answer: C

Watch Video Solution

7. An unknown alcohol is treated with the 'Lucas reagent' to determine wheter the alcohol is primary, secondary or tertiary. Which alcohol reacts fastest and by what mechanism :

A. secondary alcohol by S_{N1}

B. tertiary alcohol by S_{N1}

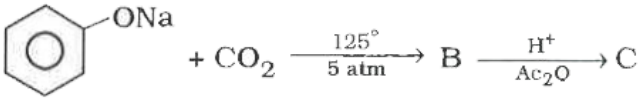
C. secondary alcohol by S_{N2}

D. tertiary alcohol by S_{N2}.

Answer: B

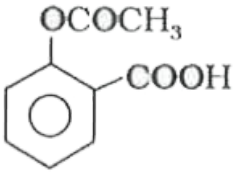
Watch Video Solution

8. Sodium phenoxide when heated with CO_2 under pressure at $125^\circ C$ yields a product which on acetylation produce C.

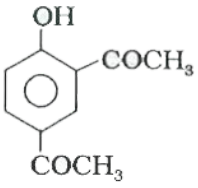


The major product C would be

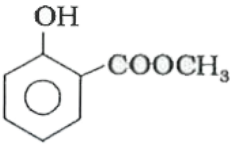
A.

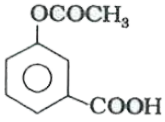


B.



C.



D. 

Answer: A

Watch Video Solution

Recent Examination Questions

1. The best method for the conversion of an alcohol into an alkyl chloride is by treating the alcohol with

A. PCl_5

B. $SOCl_2$ in the presence of pyride

C. Dry HCl in the presence of anhydrous $ZnCl_2$

D. PCl_3.

Answer: B

Watch Video Solution

2. Lucas test is associated with

A. Phenol

B. Carboxylic acid

C. Alcohols

D. Aldehydes.

Answer: C

Watch Video Solution

3. The correct sequence of reaction to convert p-nitrophenol into quinol involves

A. reduction diazotization and hydrolysis

B. hydrolysis, diazotization and reduction

C. hydrolsis, reduction and diazotization

D. diazotization, reduction and hydrolysis.

Answer: A

Watch Video Solution

Watch Video Solution

4. Phenol $\xrightarrow{X}$ forms a tribromo derivation. "X" is

A. bromine in benzene

B. bromine in water

C. potassium bromide solution

D. bromine in carbon tetrachloride at $0^{\circ}C$.

Answer: B

Watch Video Solution

5. An oxygen containing organic compound was found to contain 52% carbon and 13 % of hydrogen . Its vapour density is 23 . The compound reacts with sodium metal to liberate hydrogen . A functional isomer of this compound is

A. Ethanol

B. Ethanal

C. Methoxy methane

D. Methoxy ethane.

Answer: C

 Watch Video Solution

6. Power alcohol is a mixture of

A. 80% Petrol $+20\%$ Benzene + Small quantity of Ethanol

B. 80% Pentrol $+20\%$ Ethanol + Small quantity of Benzene

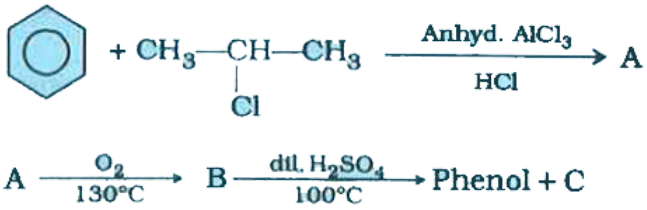
C. 80% Ethanol $+20\%$ Benzene + Small quantity of Petrol

D. 50% Petrol $+50\%$ Ethanol + Small quantity of Benzene.

Answer: B

Watch Video Solution

7. Identify $'C$ in the following :



A. Water

B. Ethanol

C. Propanone

D. Cumene Hydroperoxide.

Answer: C

Watch Video Solution

8. Which of the following is strongly acidic ?

A. Phenol

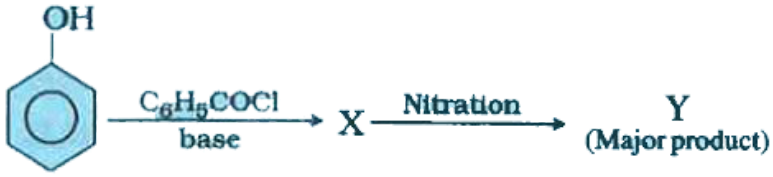
B. o-crysol

C. p-nitrophenol

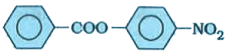
D. p-cresol.

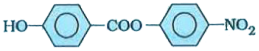
Answer: B

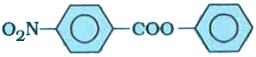
Watch Video Solution

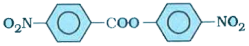
9. 

Y is :

A. 

B. 

C. 

D. 

Answer: A

Watch Video Solution

10. When $CH_2 = CH - O - CH_2 - CH_3$ reacts with one mole of HI , one of the products formed is

A. Ethane

B. Ethanol

C. Iodoethene

D. Ethanal.

Answer: D

Watch Video Solution

11. Arrange the following compounds in the increasing order of their acidic strength :

i. m - nitrophenol ii. m - cresol

iii. Phenol iv. m -chlorophenol

A. m-nitrophenol

B. m-cresol

C. phenol

D. m-chlorophenol.

Answer: A

Watch Video Solution

12. Identify the main product in the reaction $C(CH_3)_3OH \xrightarrow[358K]{20\% H_3PO_4}$?

A. $(CH_3)_2C = CH_2$

B. $(CH_3)_2CHOH$

C. $CH_3CH = CHCH_3$

D. $CH_3CH_2CH = CH_2$.

Answer: A

Watch Video Solution