CHEMISTRY

BOOKS - A2Z CHEMISTRY (HINGLISH)

ALCOHOLS, PHENOLS AND ETHERS

Methods Of Preparation Of Alcohols

1. Primary alcohol can easily be prepared from primary alky 1 halide $via S_N 2$reaction with aqueous $NaOH$. However, similar method does not work for the perparation tertiary acholo (tertiary butanol) from tertiary buty1 bromide except?

A. $(CH_3)_3CBr + CH_3COOAg(aq) \rightarrow \xrightarrow{H_3O^+}$

B. $(CH_3)_3CBr + KOH \xrightarrow{C_2H_5OH} \xrightarrow[Heat]{H_2SO_4}$

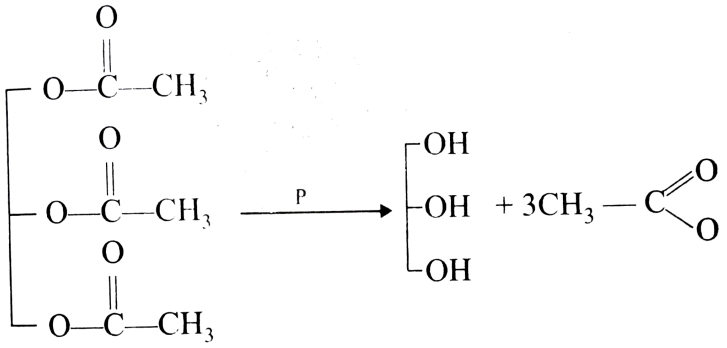
C. $(CH_3)_3CBr \xrightarrow[(C_2H_5)_2O]{Mg} \xrightarrow[(iii)\, H_3O^+]{(i)\, O^2}$

D. $(CH_3)_3CBr \xrightarrow{KOH / Ethanol} \xrightarrow[(ii)\, H_2O_2 / NaOH]{(i)\, B_2H_6}$

Answer: A

Watch Video Solution

2. Reagent P in the given reaction is :



A. $LiA1H_4$

B. $NaBH_4$

C. $DIBA1 - H$

D. OH^-

Answer: D

Watch Video Solution

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

A. Alkaline $KMnO_4$

B. B_2H_6 and alkaline H_2O_2

C. O_3 / Zn dust

D. $OsO_4 / NaHSO_3$

Answer: B

Watch Video Solution

4. In the reaction sepuence, $CaC_2 \xrightarrow{H_2O} A \xrightarrow[Hg^{2+}]{dil.H_2SO_4} B \xrightarrow[Ni]{H_2} C$, the product $C$is

A. CH_3OH

B. CH_3CHO

C. C_2H_5OH

D. C_2H_4

Answer: C

Watch Video Solution

5. Which of the following are isomers ?

A. Methyl alcohol and Dimethyl ether

B. Acetone and Acetaldehyde

C. Ethyl alcohol and Dimethylether

D. Propionic acid and propanone

Answer: C

Watch Video Solution

6. Product $[X]$ of he reaction is

$$CH_3 - \overset{CH_3}{\underset{|}{C}} = CH - CH_3 \xrightarrow{Hg(OA)_2, C_2H_5OH} [X]$$

A. $CH_3 - \overset{CH_3}{\underset{OC_2H_5}{C}} - \underset{HgOAc}{CH} - CH_3$

B. $CH_3 - \overset{CH_3}{\underset{HgOAc}{C}} - \underset{OC_2H_5}{CH} - CH_3$

C. $CH_3 - \overset{CH_3}{\underset{OH}{C}} - \underset{HgOAc}{CH} - CH_3$

D. $CH_3 - \overset{CH_3}{\underset{HgOAc}{C}} - \underset{OH}{CH} - CH_3$

Answer: A

Watch Video Solution

7. Ethanol is prepared industrially by

A. Hydration of ethylene

B. Fermentation of sugars

C. Both the above

D. None of these

Answer: C

Watch Video Solution

8. Isobuty1alcohol as prepared from the reaction of

A. CH_3CH_2MgBr and CH_3CHO

B. CH_3MGBr and CH_3CH_2CHO

C. $(CH_3)_2CHMgBr$ and $HCHO$

D. CH_3MgBr and CH_3COCH_3

Answer: C

Watch Video Solution

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

A. $OsO_4 / CH_4 / C1_2$

B. $B_2H_6$and alkaline H_2O_2

C. O_3 / Zndust

D. Alkaline $KMnO_4$

Answer: D

Watch Video Solution

10. The product of the reaction $Ph_2C = O \xrightarrow[H_3O^{\oplus}]{LiAlD_4}$ is

A. $Ph_2CD(OH)$

B. $Ph_2CH(OD)$

C. $Ph_2CD(OD)$

D. None of these

Answer: A

Watch Video Solution

11. Formaldehyde gives an additive product with Methylmagnesium iodide which in aqueous hydrolysis gives

A. Isopropyl alcohol

B. Methyl alcohol

C. Ethyl alcohol

D. Propyl alcohol

Answer: C

Watch Video Solution

12. Action of nitrous acid with ethylamine produces

A. Ethyl alcohol

B. Ammonia

C. Ethane

D. Nitroethane

Answer: A

Watch Video Solution

13. Alcohols have higher boiling points than parent hydrocarbons because of

A. Higher molecular masses

B. Presence o fhydrogen bonding

C. Presence of carbon chain

D. None of these

Answer: B

Watch Video Solution

14. What is obtained when chlorine is passed in boiling touence an dproduct is hydrolysed?

A. $o-$ Cresol

B. $p-$ Cresol

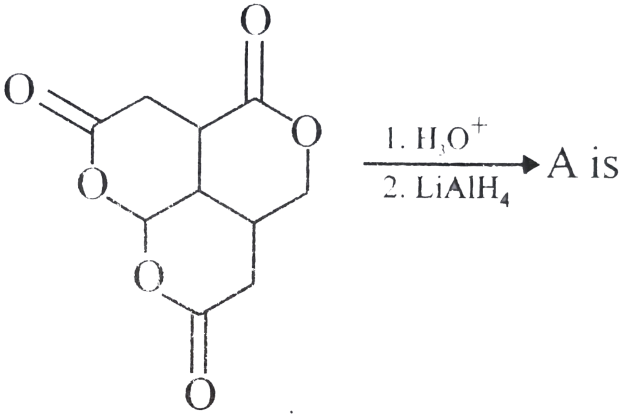
C. Benzyl acohol

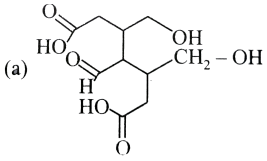
D. 2, 4-Dihydroxytoluene

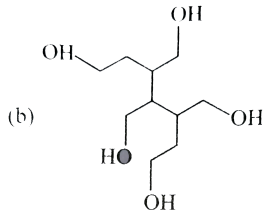
Answer: C

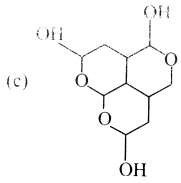
Watch Video Solution

15. Complete the following reaction

15. 

A. 

B. 

C. 

D. None of these

Answer: B

Watch Video Solution

16. Which of the following is industrially prepared by passing ethylene into hypochlorous acid?

A. Ethane

B. Ethylene oxide

C. Ethylene dinitrate

D. Ethylene glycol

Answer: D

Watch Video Solution

17. The reagent used to convert

$RCOOH \rightarrow RCH_2OH$ is

A. $NaBH_4$

B. Ethylene oxide

C. $Zn/Hg - HC1$

D. $LiA1H_4$

Answer: D

Watch Video Solution

18. $C_6H_5 - CH = CHCHO \xrightarrow{(X)} C_6H_5CH = CH_2OH$

In the above sequence (X) can be :

A. H_2 / Ni

B. $K_2Cr_2O_7 / H^+$

C. $NaBH_4$

D. Both (a) and (c)

Answer: C

Watch Video Solution

19. Which reagent can convert accetic acid into ethanol?

A. $Na +$ alcohol

B. $H_2 + Pt$

C. $LiA1H_2 + ether$

D. $Sn + HC1$

Answer: C

Watch Video Solution

20. The solubility of lower alcohols in water is due to

A. Formation of hydrogen bond between alcohod and water molecules

B. Hydrophobic nature of carbon chain

C. Increases in boiling points

D. None of these

Answer: A

Watch Video Solution

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

$$C_6H_5 - CH = CH - CH_3 \xrightarrow[H_2O]{(ii)\ (CH_3COO)_2Hg} \xrightarrow[H_3O^+]{(ii)\ NaBH_4}$$

A. $C_6H_5 - \underset{\underset{OH}{|}}{C}H - CH_2CH_3$

B. $C_6H_5 - CH_2 - \underset{\underset{OH}{|}}{C}H - CH_3$

C. $C_6H_5CH_2 - CH = CH_2$

D. $C_6H_5 - \overset{\overset{CH_3}{|}}{\underset{\underset{OH}{|}}{C}} - CH_3$

Answer: A

Watch Video Solution

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

A. They are lighter than water

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

C. Lower members have pleasant small and burning taste, while higher members are odourless and testeless

D. Lower mombers are in water organic solvents but solubility regularly increases with molecular weight

Answer: D

Watch Video Solution

23. Which of the following compounds on reaction with CH_3MgBr will give a tertiary alcohol?

A. C_6H_5CHO

B. $C_2H_5COOCH_3$

C. C_2H_5COOH

D. (d) $CH_3CH—CHCH_3$ (O)

Answer: B

Watch Video Solution

24. Acetyl bromide reacts with excess of CH_3MGI followed by treatement with a saturated solution of NH_4C1 gives:

A. Acteyl iodide

B. Acetamide

C. $2-$ Methy$1-$ 2-propanol

D. Acetone

Answer: C

Watch Video Solution

25. Which of the following is soluble in water?

A. CS_2

B. C_2H_5OH

C. $CC1_4$

D. $CHC1_3$

Answer: B

Watch Video Solution

26. Hydrogen bonding is maximum in:

A. Ethanol

B. DiEthyl ether

C. Ethylchloaride

D. TriEthylamine

Answer: A

Watch Video Solution

27. The compound that will react most readily with $NaOH$ to from methanol is

A. $(CH_3)_4N^+I^-$

B. CH_3OCH_3

C. $(CH_3)_3S^+I^-$

D. $(CH_3)_3\mathbb{C}1$

Answer: A

Watch Video Solution

28. The product of acid catalyzed hydration of $2-$ pheny1propene is

A. $3-$ pheny-2-propanol

B. $1-$ pheny$1-2$-propanol

C. $2-$ pheny$1-2$-propanol

D. $2-$ pheny$1-1$-propanol

Answer: C

Watch Video Solution

29. (I) 1,2-Dihydroxy benzene

(II) 1,3-Dihydroxy benzene

(III) 1,4-Dihydroxy benzene

(IV) Hydroxy benzene

The increasing order of boiling points of the above-mentioned alcohols is:

A. $I < II < IV < III$

B. $I < II < III < IV$

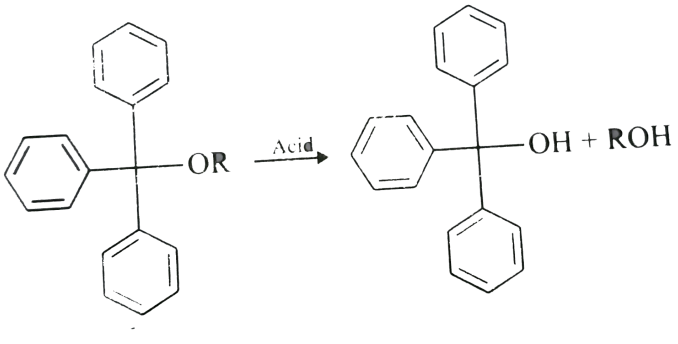
C. $IV < II < I < III$

D. $IV < I < II < III$

Answer: D

Watch Video Solution

30. The acidic hydrolysis of ether (X) shown below is fastest when



A. One pheny1 group is replaced by a Methyl group

B. One pheny1 group is replaced by a para-methoxyphenency1 group

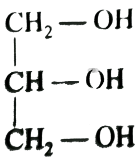
C. Two pheny1 groups are replaced by two para-methoxpheny1 grops

D. No structural change is made to X

Answer: C

Watch Video Solution

31. Which of the following is terriary alcohol?

A. 

B.
$$\begin{array}{c} \quad\quad CH_2 \\ \quad\quad | \\ CH_3 - CH_2 - CH_2OH \\ \quad\quad | \\ \quad\quad CH_2 \\ \quad\quad | \\ \quad\quad CH_3 \end{array}$$

C.
$$\begin{array}{c} \quad CH_3 \\ \quad | \\ CH_3 - C - OH \\ \quad | \\ \quad CH_3 \end{array}$$

D. $CH_3 - CH_2 - OH$

Answer: C

Watch Video Solution

32. Which is primary acohole?

A. Butan $-2-o1$

B. Butan $-1-o1$

C. Propan $-2-o1$

D. Isopropy1alcohol

Answer: B

Watch Video Solution

33. Carbinol is

A. C_2H_5OH

B. CH_3OH

C. $(CH_3)_2CHOH$

D. $CH_3CH_2CH(OH)CH_3$

Answer: B

Watch Video Solution

34. $1, 2, 3 -$ trihydroxybenzene is also known as

A. Pyrogallol

B. Phloroglucinol

C. Resorconol

D. Quinol

Answer: A

Watch Video Solution

35. Moelecular formula of amy1 alcohol is

A. $C_7H_{14}O$

B. $C_6H_{13}O$

C. $C_5H_{12}O$

D. $C_5H_{10}O$

Answer: C

Watch Video Solution

36. Absolute alcohol is

A. $100\ \%$ pure ethanol

B. $95\ \%$ alcohol $+5\ \%\ H_2O$

C. Ethnol $+$ water $+$ Phenol

D. $95\ \%$ ethanol $+5\ \%$ methanol

Answer: A

Watch Video Solution

37. Which one of the following will produce a primary alcohol by reacting with CH_3MgI?

A. Acetone

B. Methylcyanide

C. Ethayene oxide

D. Ethyl acetate

Answer: C

Watch Video Solution

38. The enzyme that converts cane sugar into invert sugar (a mixture of glucose and fructose) is

A. Diastase

B. Invertase

C. Zymase

D. Maltase

Answer: C

Watch Video Solution

39. Absolute alcohol is obtained by distilling rectified spirit with

A. By removing the water in it using concentrated sulphuric acid

B. By removing the water using phosphorus pentoxide

C. By distilling with the appropriate amount if benzene

D. By distilling over plenty of quick line

Answer: A

Watch Video Solution

40. The reaction between an ester and excess of Grignard reagent shall finally result in a

A. Primary alcohol

B. Secondary alcohol

C. Tertiary alcohol

D. Ketone

Answer: C

Watch Video Solution

41. Rectified spirit obtained by fermentation contains 4.5% of water. So in order to remove it, rectified spirit is mixed with suitable quantity of benzene and heated. Benzene helps because

A. It is dehydrating agent and so removes water

B. It forms the lower layer which retains all the water so that alcohol can be distilled off

C. It forms an azeotropic mixture having high boiling point and thus allows the alcohol to distill over

D. If forms low boiling azeotropic mixtures which distill over, leaving behind pure alcohol which can then be distilled

Answer: D

Watch Video Solution

42. The mixture of ethanol and water cannot be separated by distillation because

A. They form a constant boiling mixture

B. Alcohol molecules are solvated

C. Their boiling points are very near

D. Alcohol remains dissolved in water

Answer: A

Watch Video Solution

Chemical Properties Of Alcohols

1. $Ph-\underset{\underset{(P)}{OH}}{\underset{|}{CH}}-\overset{\overset{O}{||}}{C}-H \xrightarrow[H_2O]{HO^-} Q$. P and Q are isomers. Identify Q

A. $Ph-CH_2-\overset{\overset{O}{||}}{C}-OH$

B. $Ph-\overset{\overset{O}{||}}{C}-OCH_3$

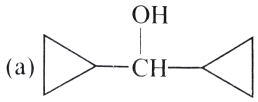
C. $Ph-\overset{\overset{O}{||}}{O}-CH_2OH$

D. $H-\overset{\overset{O}{||}}{C}-CH_2-O-Ph$

Answer: C

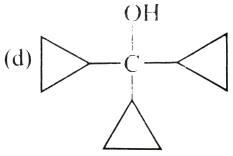
Watch Video Solution

2. Which one of the following will be most recctive for S_{N1} reaction?

A. 

B. $C_6H_5 - \overset{\overset{OH}{|}}{CH} - CH_6H_5$

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

D. 

Answer: D

Watch Video Solution

3. The compound that reacts faster with Lucas reacgent (conc. $HCl + ZnCl_2$) at room temperature is

A. butan$-1-ol$

B. butan$-2-ol$

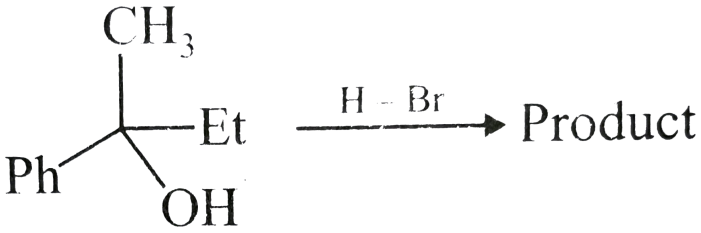
C. $2-$ methal1propan$-1-ol$

D. $2-$ Methylpropan$-2-ol$

Answer: D

Watch Video Solution

4. Which describes the best stereochemical aspects of the following reaction?



$\xrightarrow{H-Br} Product$

A. Inversion of configuration occurs at the carbon undergoing substitution.

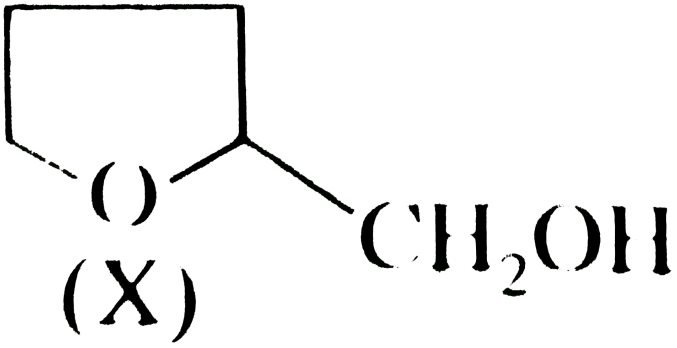
B. Retention of configuration occurs at the carbon undergoing substitution.

C. Racemization occurs at the carbon undergoing substitution.

D. The carbon undergoing substitution is not stereogenic.

Answer: C

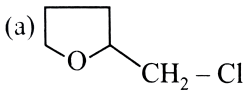
Watch Video Solution

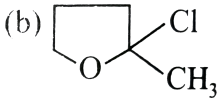


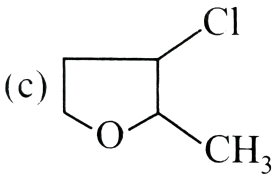
5.

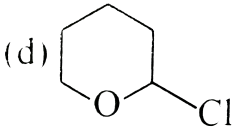
$$\xrightarrow[\text{Pydridine, } \Delta]{SOCl_2} \text{Product}$$

Product of the above reaction is:

A. 

B. 

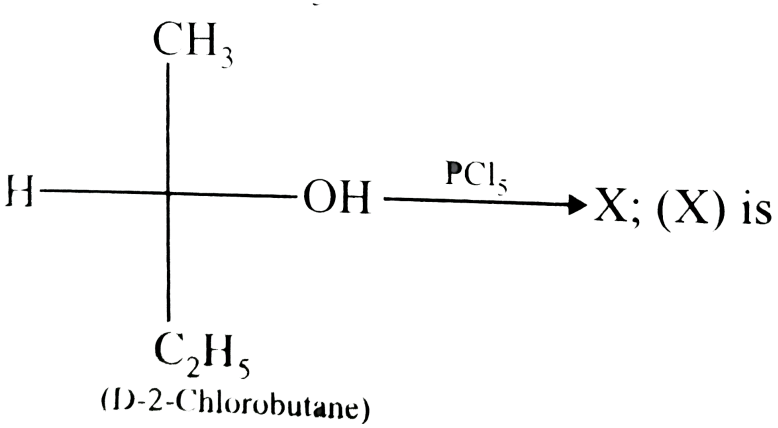
C. 

D. 

Answer: A

Watch Video Solution

6.



$\xrightarrow{PCl_5} X, (X)$ is

A. $S-2-$ Chlorobutane

B. $R-2-$ Chlorobutane

C. Mixture of R and $S-2-$ Chlorobutane

D. 1 Chlorobutane

Answer: B

Watch Video Solution

7. An alcohol contains 60% carbon and 13.3% hydrogen and givens positive idoform test. The alcohol is

A. $2-$ propanol

B. $1-$ propanol

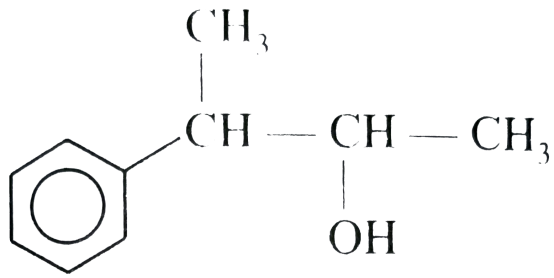
C. $2-$ butanol

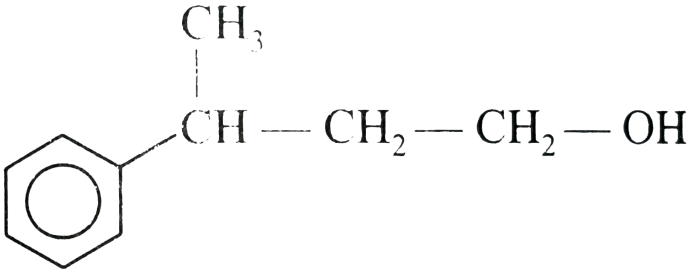
D. $1-$ butanol

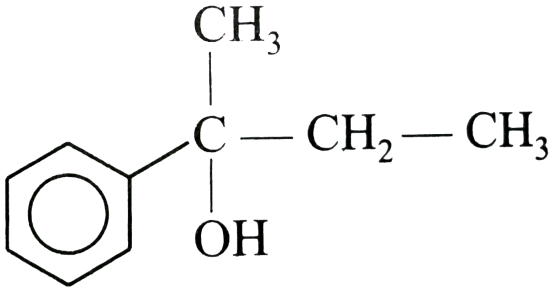
Answer: A

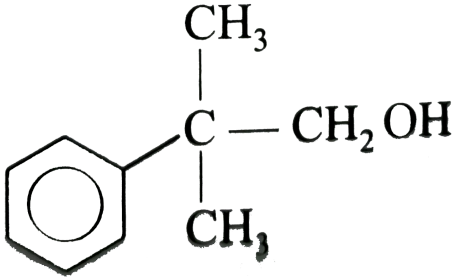
Watch Video Solution

8. The relative rate of acid catalysed dehydration of following alcohols would be

I. 

II. 

III. 

IV. 

I.

II.

III.

IV.

A. $III > I > IV > II$

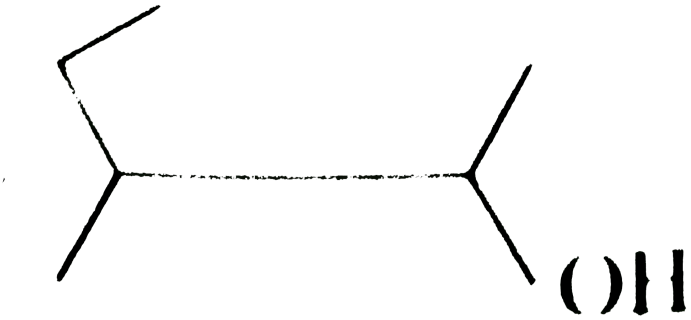
B. $III > IV > I > II$

C. $I > III > IV > II$

D. $III > IV > I > II$

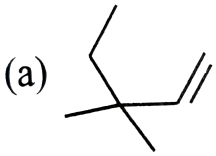
Answer: A

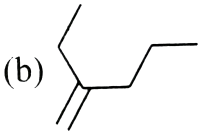
Watch Video Solution

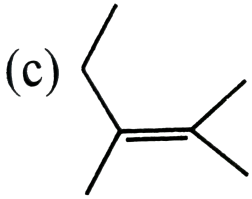


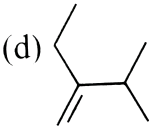
9.

$\xrightarrow{Conc.H_2SO_4}$ Major product is

A. 

B. 

C. 

D. 

Answer: C

Watch Video Solution

10. $CH_3 - CH_2 - \underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{C}} - \underset{\underset{OH}{|}}{CH} - CD_3 \xrightarrow[\Delta]{H_3PO_4}$ Total no. of alkenes $(X) \xrightarrow[distilation]{Fractional}$ No. of fractions obtained (Y).

X and Y are:

A. $6, 6$

B. $9, 5$

C. $9, 6$

D. $6, 4$

Answer: C

Watch Video Solution

11. Which is the product in the following reaction?

$$H_2C = CH - \underset{\underset{CH_3}{|}}{CH} - OH \xrightarrow{H_2CrO_4}$$

A. $H_2C = CH - \underset{\underset{CH_3}{|}}{C} = O$

B. $OHC - \underset{\underset{CH_3}{|}}{C} = O$

C. $HOOC - \underset{\underset{CH_3}{|}}{C} = O$

D. CH_3CHO

Answer: A

Watch Video Solution

12. Which of the following statements are correct for the given alcohol?

$$R-OH \xrightarrow{X^{\Theta}} R-X+\overset{\Theta}{O}H$$

A. Reaction will not take place because $\overset{\Theta}{O}H$ is poor leaving group, X^{Θ} is weak bease and $\overset{\Theta}{O}H$ is strong base

B. Reaction will not take place because is poor leaving group, X^{Θ} is strong base and $\overset{\Theta}{O}H$ is weak base.

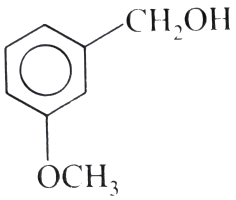
C. Reaction will not take place because $\overset{\Theta}{O}H$ is strong leaving group, X^{Θ} is strong base and $\overset{\Theta}{O}H$ is weak base.

D. Reaction will not take place because $\overset{\Theta}{O}H$ is good leaving group, X^{Θ} is weak base and $\overset{\Theta}{O}H$ is strong base.

Answer: A

Watch Video Solution

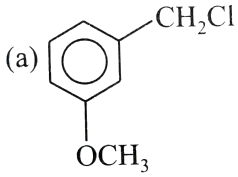
55.



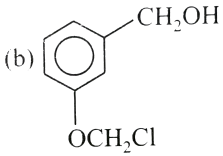
13. $\xrightarrow[\text{Pyridine}]{SOCl_2} A + SO_2 + HCl$

The product A in the above reaction is

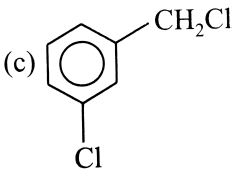
A.

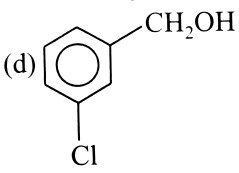


B.



C.



D. 

Answer: A

Watch Video Solution

14. An organic compound dissolved in dry benzene evolved hydrogen on treatment with sodium. It is

A. A ketone

B. An alcohol

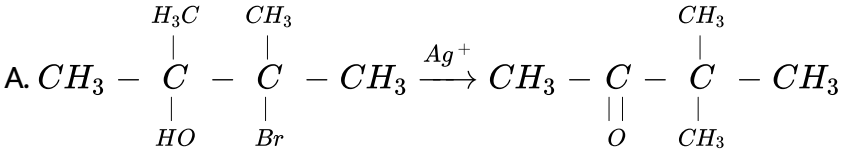
C. A tertiary amine

D. An aldehyde

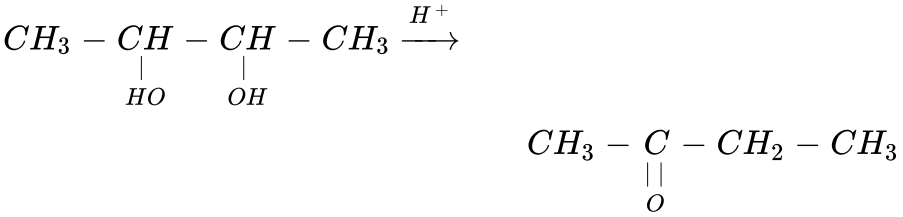
Answer: B

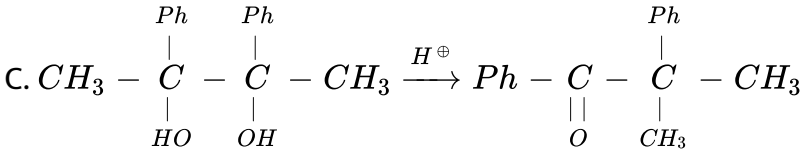
Watch Video Solution

15. Which of the following does not represent the correct product?

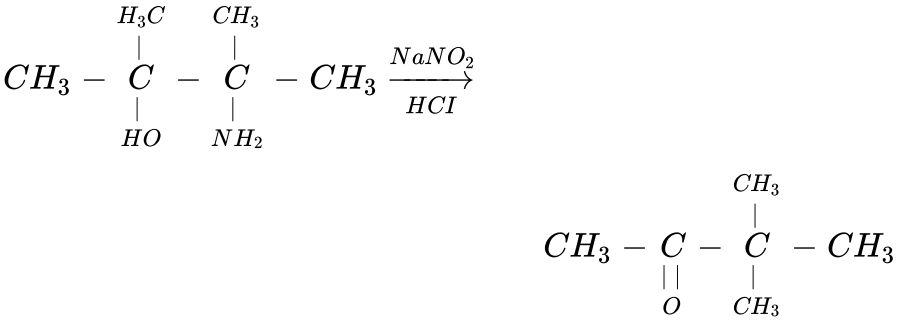
A. 

B.



C. 

D.



Answer: C

Watch Video Solution

16. Methyl alcohol cab be distinguished from Ethyl alcohol using

A. Sodium hydroxide and iodine

B. Schiff's reagent

C. Fehling soultion

D. Phthalein fusion test

Answer: A

Watch Video Solution

17. The missing structures A and B in the recation sequence:

$R - CH_2 - CH_2OH \xrightarrow[350^\circ C]{AI\,(2)\,O_3} R - CH = CH_2 \xrightarrow[(ii)\,Zn/H_3O]{(i)\,O_3}$

$RCHO + A, RCHO \xrightarrow{Reduct} B$, are

A. $CH_3OH, RCOOH$

B. Methanal, RCH_2OH

C. Ethanal, $RCOOH$

D. Methanal, $RCHOHR$

Answer: B

Watch Video Solution

18. $CH_2 = \underset{\underset{OH}{|}}{CH}CHCH_2CH_2OH \xrightarrow{MnO_2} A$, A is

A. $CH_2 = \underset{\underset{O}{||}}{CH}CCH_2CH_2OH$

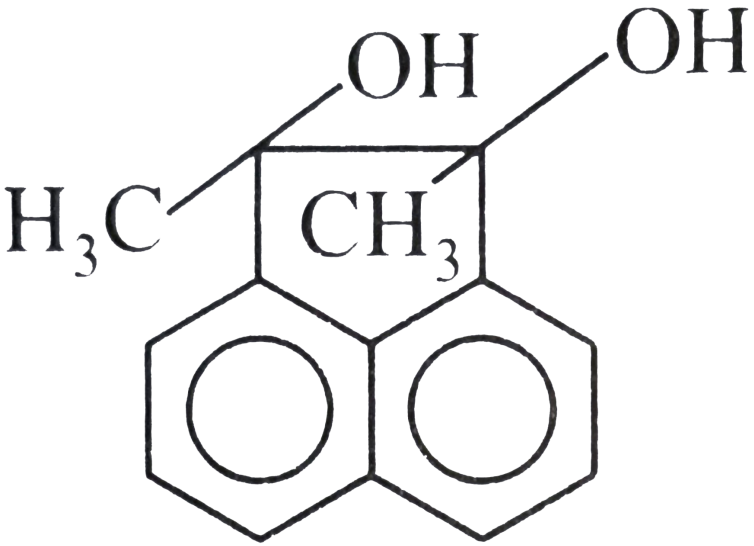
B. $CH_2 = \underset{\underset{O}{|}}{CH}CHCH_2CHO$

C. $CH_2 = \underset{\underset{O}{||}}{CH}CCH_2CHO$

D. $CH_2 = \underset{\underset{O}{||}}{CH}CCH_2\underset{\underset{O}{||}}{C}OH$

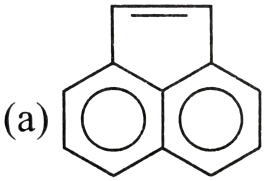
Answer: A

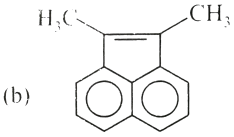
Watch Video Solution



19.

$over ser\left(H^+\right) \rightarrow$? Product is

A. 

B. 

C.

Answer: C

View Text Solution

20. The reagent which easily reacts with ethanol and propanol is

A. Feshling solution

B. Schiff's reagent

C. Grignard reagent

D. Tollens reagent

Answer: C

Watch Video Solution

21. $(CH_3)_2C = C(CH_3)_2 \xrightarrow{Cl_2/H_2O} A \xrightarrow{OH^-} B.$

Identify B

A. (a) $(CH_3)_2C - C(CH_3)_2$ (O)

B. $(CH_3)_2\underset{\underset{OH}{|}}{C} - \underset{\underset{Cl}{|}}{C}(CH_3)_2$

C. $(CH_3)_2\underset{\underset{OH}{|}}{C} - \underset{\underset{OH}{|}}{C}(CH_3)_2$

D. None of these

Answer: A

Watch Video Solution

22. The compound `'A' when trated with ceric ammonium nitrate solution gives yellow ppt. the compound 'A' is

A. Alkane

B. Aldehyde

C. Acid

D. Alcohol

Answer: D

Watch Video Solution

23. The $-OH$ group of Methyl alcohol cannot be replaced by chlorine by the the action of

A. Phosphorus trichloride

B. Hydrogen chloride

C. Chlorine

D. Phoshphorus pentachloride

Answer: C

Watch Video Solution

24. The calcohol which easily reacts with conc. HCI is

A. $CH_3 - CHOH - CH_2 - CH_3$

B. $CH_3 - CH_2 - CH_2 - CH_2 - OH$

C. $(CH_3)_3 - C - OH$

D. $(CH_3)_3 - CH - CH_2OH$

Answer: C

Watch Video Solution

25. Which of the following compounds is oxidised to prepare Methyl Ethyl ketone?

A. $2 -$ propanol

B. $2 -$ butanol

C. $1 -$ butanol

D. Tert-buty1alcohol

Answer: B

Watch Video Solution

26. In the esterification reaction of alcohols

A. OH^- is replaced by C_2H_5OH

B. OH^- is replaced by chlorine

C. H^- is replaced by sodium metal

D. OH^- is replaced by CH_3COO group

Answer: D

Watch Video Solution

27. When primary alcohol is oxidised with chlorine, it produces

A. $HCHO$

B. CCI_3CHO

C. CH_3CHO

D. C_3H_7CHO

Answer: B

Watch Video Solution

28. Which of the following compound given yellow precipiate with I_2 and $NaOH$?

A. CH_3CH_2OH

B. $CH_3CH_2CH_2OH$

C. $C_2H_5OC_2H_5$

D. CH_3OH

Answer: A

Watch Video Solution

29. Which of the following react with benzoic acid to form enthy1 benzoate?

A. Cinnamic acid

B. Ethylalcohol

C. Sodium ethoxide

D. Ethyl chloride

Answer: B

Watch Video Solution

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

A. CH_3OH

B. CH_3COOH

C. C_2H_5OH

D. $HCHO$

Answer: B

Watch Video Solution

31. The dehydration of $2-$ Methyl butanol with conc. H_2SO_4 gives

A. $2-$ Methyl pent$-2-$ ene

B. Pentene

C. $2-$ Methyl but$-2-$ ene as major product

D. $2-$ Methylbutene as major product

Answer: C

Watch Video Solution

32. $A \xrightarrow[\Delta]{Cu} CH_3CH_2OH \xrightarrow[\Delta]{Al_2O_3} B$

A and B respectively are

A. Alkanal, alkene

B. Alkyne,alkanal

C. Alkene, alkanal

D. Alkene,alkyne

Answer: A

Watch Video Solution

33. The best method to prepare cyclohexene form cyclohexanol is by using

A. Conc.$HCl + ZnCI_2$

B. HBr

C. Conc.H_3PO_4

D. Conc.HCl

Answer: C

Watch Video Solution

34. Tertiary buthy1 alcohl gives tertiary buty1 chloride on treatement with

A. $NaOCI$

B. KCN

C. Conc.HCI / anhydrous $ZnCI_2$

D. CI_2

Answer: C

Watch Video Solution

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

A. $CH_3CH_2\underset{\underset{CH_3}{|}}{C}HCH_2CH_2OH$

B. $CH_3CH_2CH_2\overset{\overset{OH}{|}}{C}HCH_3$

C. $CH_3CH_2\overset{\overset{CH_3}{|}}{\underset{\underset{OH}{|}}{C}}CH_2CH_3$

D. $CH_3CH_2CH_2CH_2CH_2OH$

Answer: C

Watch Video Solution

36. Phenyl magesoium bromide reacts with methanol to give:

A. A mixture of anisole and $Mg(OH)Br$

B. A mixture of benzene and $Mg(OMe)Br$

C. A mixture of toluene and $Mg(OH)Br$

D. A mixture of phenol and $Mg(Me)Br$

Answer: B

Watch Video Solution

37. Among the following the one that gives pistive idoform test upon reaction with I_2 and $NaOH$ is:

A. $CH_3CH_2CH(OH)CH_2CH_3$

B. $C_6H_5CH_2CH_2OH$

C. $CH_3 - \overset{CH_3}{\underset{|}{C}}HCH_2OH$

D. $PhCHOHCH_3$

Answer: D

Watch Video Solution

38. In the following sequence of reactions:

$CH_3CH_2OH \xrightarrow{P+I_2} A \xrightarrow[\text{dry ether}]{Mg} B \xrightarrow{HCHO} C \xrightarrow{H_2O} D$ the compound D is:

A. Butanal

B. n-butyl alcohol

C. n-propyl alcohol

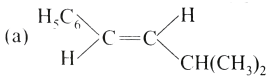
D. Propanal

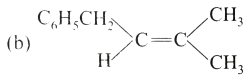
Answer: C

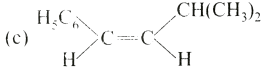
Watch Video Solution

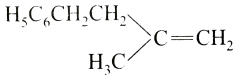
39. The main product of the following reaction is

$C_6H_5CH_2CH(OH)CH(CH_3)_2 \xrightarrow{\text{conc.}H_2SO_4}$?

A. 

B. 

C. 

D. 

Answer: A

Watch Video Solution

40. An unknown alcohol is treated with the 'Lucas reagent' to determine whether the alcohol is primary, secondary or tertairy. Which alcohol reacts faster and by what mechanism?

A. Secondary alcohol by S_N^1

B. Tertiary alcohol by S_N^1

C. Secondary alcohol by S_N^2

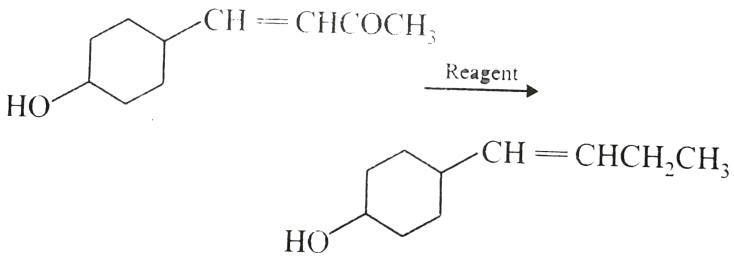
D. Tertiary alcohol by S_N^2

Answer: B

Watch Video Solution

Watch Video Solution

41. In the given transformation which of the following is the most appropriate reagent?



A. $NH_2NH_2, \overset{\Theta}{O}H$

B. $Zn - Hg/HCI$

C. $Na, Liq.\ NH_3$

D. $NaBH_4$

Answer: A

Watch Video Solution

42. Consider the following reaction,

$C_2H_5OH + H_2SO_4 \rightarrow$ Product

Among the following which one cannot be formed as a product under any coditions?

A. Ethylhydrogen sulphate

B. Ethy`1ene

C. AcEthylene

D. DiEthylether

Answer: C

Watch Video Solution

43. Ethyl alcohol is heated with conc. H_2SO_4 . The product formed is:

A. $H_3C - \underset{\underset{O}{||}}{C} - OC_2H_5$

B. C_2H_6

C. C_2H_4

D. C_2H_2

Answer: C

Watch Video Solution

44. A compound that given a positive iodoform test is

A. 1-pentanol

B. $2-$ pentanone

C. $3-$ pentanone

D. pentanal

Answer: B

Watch Video Solution

45. An industrial method of preparation of methanol is

A. cathalytic reduciton of carbon monoxide in presence of $ZnO - Cr_2O_3$

B. by reacting methane with steam at $900^\circ C$ with a nickel catayst

C. by reducing formaldehyde with lithium aluminium hydride

D. by reacting formaldehyde with aqueous sodium hydroxides solution

Answer: A

Watch Video Solution

46. HBr reacts fastest with

A. $2 -$ methaly1propan$-2 - ol$

B. propan$-1 - ol$

C. propan $-2-ol$

D. $2-$ methyl propan$1-ol$

Answer: A

Watch Video Solution

47. In CH_3CH_2OH, the bond that undergoes heterolytic cleavage most readily is

A. $C-N$

B. $C-O$

C. $C-H$

D. $O-H$

Answer: D

Watch Video Solution

48. The products of combustion of an aliphatic thiol (RHS) at $298K$ are:

A. $CO_2(g)$, $H_2O(g)$,and $SO_2(g)$

B. $CO_2(g)$, $H_2O(l)$, and $SO_2(g)$

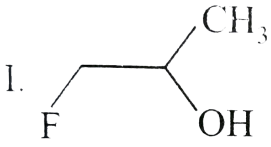
C. $CO_2(l)$, $H_2O(l)$,and $SO_2(g)$

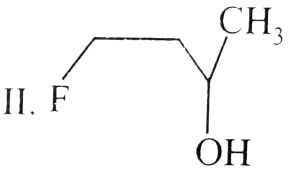
D. $CO_2(g)$, $H_2O(l)$,and $SO_2(l)$

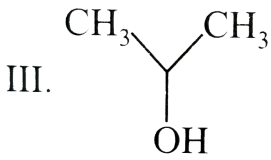
Answer: B

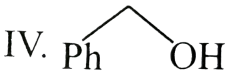
Watch Video Solution

49. The order of reactivity of the following alcohols towards conc. HCI is

I. 

II. 

III. 

IV. 

I. II.

III. IV.

A. $I > II > III > IV$

B. $I > III > II > IV$

C. $IV > III > II > I$

D. $IV > III > I > II$

Answer: C

Watch Video Solution

50. $1-$ Propanol and $2-$ propanal can be best distinguished by

A. oxidation with alkaline $KMnO_4$ followed by reaction with Fehling solution

B. oxidation with acidic dichromate followed by reaction with Fehling solution

C. oxidation by heating with copper followed by reaction with Fehling solution

D. oxidation with concetrated H_2SO_4 followed by reaction with Fehling solution

Answer: C

Watch Video Solution

51. The best method to prepare cyclohexene from cyclochexanol is by using

A. Conc.$HCI + ZnCI_2$

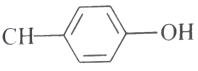
B. Conc.H_3PO_4

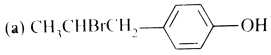
C. HBr

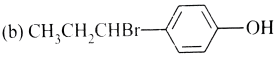
D. Conc.HCI

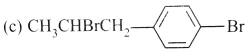
Answer: B

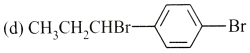
Watch Video Solution

52. The reaction of $CH_3CH =$  with HBr gives

A. 

B. 

C. 

D. 

Answer: B

Watch Video Solution

53. A compound X of formula C_3H_8O yields a compound C_3H_6O, on oxidation. To which of the following classes of compounds could X being

A. Secondary alcohol

B. Alkene

C. Aldehyde

D. Teriary alcohol

Answer: A

Watch Video Solution

54. An alcohol on oxidation is found to given CH_3COOH and CH_3CH_2COOH. The structure of the alcohol is

A. $CH_3CH_2CH_2OH$

B. $(CH_3)_2C(OH)CH_2CH_3$

C. $CH_3CH_2CHOHCH_3$

D. $CH_3CH(OH)CH_2CH_2CH_3$

Answer: D

Watch Video Solution

55. An organic liquid A containing C, H and O has a pleasant odour with a boiling point of $78^\circ C$. On boiling. A with conc. H_2SO_4 a colourless gas is produced which decolourises bromine water and alkaline $KMnO_4$. One mole of this gas also takes one mole of H_2. The organic liquid A is

A. C_2H_5CI

B. C_2H_5CHO

C. C_2H_6

D. C_2H_5OH

Answer: D

Watch Video Solution

56. Which of the following gives ketone on oxidation?

A. $(CH_3)_3COH$

B. $CH_3CH_2CH_2OH$

C. $(CH_3)_2CHCH_2OH$

D. $CH_3CHOHCH_3$

Answer: D

Watch Video Solution

57. Which fo the following would undergo dehydration most readily?

A. 1-pheny1 $-$ 1butanol

B. $2-$ pheny1 $-$ 2-butanol

C. $1-$ pheny1 $-$ 2butanol

D. $2-$ pheny1 $-1-$ butanol

Answer: B

Watch Video Solution

58. Which of the following produces violet colour with $FeCl_3$ solution?

A. Enols

B. Ethanol

C. Ethanal

D. Alkyl halides

Answer: A

Watch Video Solution

59. An organic compound X on treatement with acidified $K_2Cr_2O_7$ gives a compound Y which reats with I_2 and sodium carbonate to form tri-iodomethane. The compound X is

A. CH_3OH

B. $CH_3 - CO - CH_3$

C. CH_3CHO

D. $CH_3CH(OH)CH_3$

Answer: D

Watch Video Solution

60. Alcohols (i) $CH_3CH_2CH_2OH$ (ii) $CH_3 - CHOH - CH_3$ and (iii) $CH_3 - C(CH_3)(OH) - CH_3$ were treated with Kucas reagent (Conc. $HCI + ZnCI_2$). What results do you expect at room temperature?

A. (ii) and (iii) reat immediately and (i) in about 5 minutes

B. (iii) reacts immediately, (ii) reacts in about 4 minutes and (i) not at all

C. (i) reacts immediately, (ii) reacts in about 5 minutes and (iii) not at all

D. (i) reacts in about 5 minutes, (ii) reacts in about 15 minutes and (iii) not at all

Answer: B

Watch Video Solution

61. $\underset{\text{1-butanol}}{CH_3(CH_2)_2CH_2OH} \xrightarrow{NaBr, H_2SO_4} X,$

Identify X and the mechansium of the reaction

A. $CH_3 - CH_2 - CH_2 - CH_2 - Br \& S_N1$

B. $CH_3 - CH_2 - CH_2 - CH_2 - Br \& S_N2$

C. $CH_3 - \underset{\displaystyle Br}{\underset{|}{CH}} - CH_2 - CH_3 \& S_N1$

D. $CH_3 - \underset{\underset{Br}{|}}{CH} - CH_2 - CH_3 \& S_N 2$

Answer: B

Watch Video Solution

Phenols

1. Salicylic acid can be prepared using Reimer-Tiemann's reaction by treating phenol with

A. Methyl chlorode in the presence of anhydrous aluminium chloride

B. Carbon dioxide under pressure in sodium hydroxide solution

C. Carbon tetrachloride and concentrated sodim hydroxide

D. Sodium nitrite and a few drops of concentrated sulphuric acid

Answer: C

Watch Video Solution

2. Phenol $\xrightarrow[(ii)\,CO_2/140^\circ C]{(i)\,NaOH} A \xrightarrow{H^+/H_2O} B \xrightarrow[CH_3COOH]{Al_2O_3} C$

In this reaction, the end product C is

A. salicyladldehyde

B. salicylic acid

C. pheny1 aceate

D. aspirin

Answer: D

Watch Video Solution

3. If we use pyrene $(CCI)_4$ in the Riemer-Tiemann reaction in place of chloroform, the product formed is

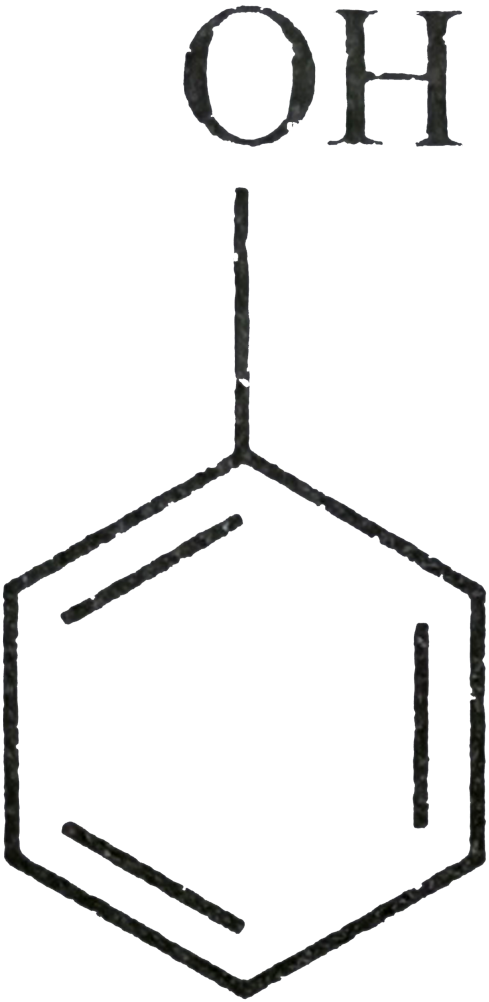
A. Salicyladldehyde

B. Phenolputhalein

C. Salicylic acid

D. Cyclohexanol

Answer: C



4.

In the above reaction product is

A. $C_6H_5OC_2H_5$

B. $C_2H_5OC_2H_5$

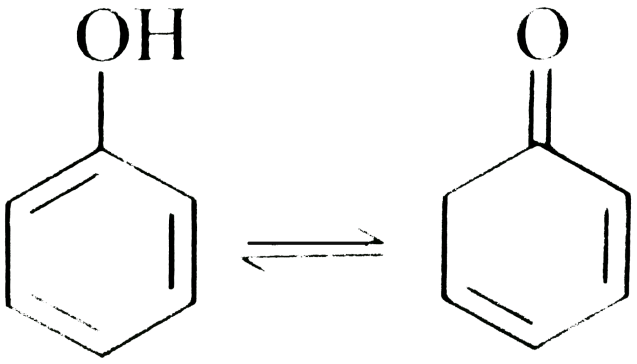
C. $C_6H_5OC_6H_5$

D. C_6H_5I

Answer: A

Watch Video Solution

5. Which is correct about the change given below?



A. The two compounds exhibit keto-enol isomerism

B. Former is enol form, latter is keto from

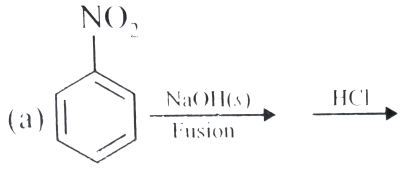
C. Former is more stable than latter due to more resonance

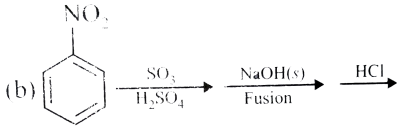
D. All are correct

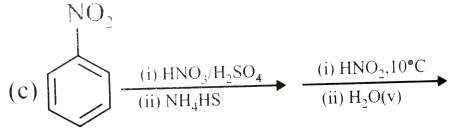
Answer: D

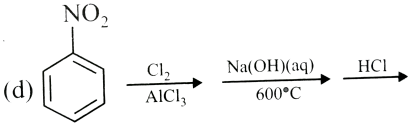
Watch Video Solution

6. All of the following may give meta nitrophenol except

A. 

B. 

C. 

D. 

Answer: A

Watch Video Solution

7. Which of the following is the best preparation of meta cresol, starting form toluene?

A. $\xrightarrow[H_2SO_4]{HNO_3} \xrightarrow[HCl]{Zn} \xrightarrow[O^\circ C]{HNO_2} \xrightarrow{H_2O(v)}$

B. $\xrightarrow[FeBr_3]{Br_2} \xrightarrow[Heat]{KOH} \xrightarrow{HCl}$

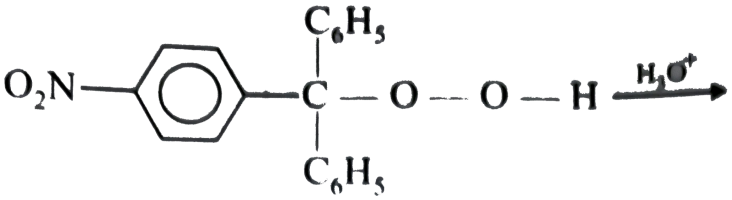
C. $\xrightarrow[H_2SO_4]{HNO_3} \xrightarrow[(ii)\ (CH_3CO)_2O]{(i)\ Zn/HCl} \xrightarrow[H_2SO_4]{HNO_3} \xrightarrow[H_2O]{H^+} \xrightarrow[O^\circ C]{HNO_2} \xrightarrow{H_3PO_2} \xrightarrow[HCl]{Zn} \xrightarrow[O^\circ C]{HNO_2} \xrightarrow{H_2O(v)}$

D. $\xrightarrow[H_2SO_4]{HNO_3} \xrightarrow[(ii)\ (CH_3CO)_2O]{(i)\ Zn/HCl} \xrightarrow[H_2SO_4]{HNO_3} \xrightarrow[HCl]{Zn} \xrightarrow[O^\circ C]{HNO_2} \xrightarrow{H_2O(v)}$

Answer: C

Watch Video Solution

8. Identify the product in the following reaction.



A. Benzophenone + phenol

B. Nitrobenzene + benzopheneone

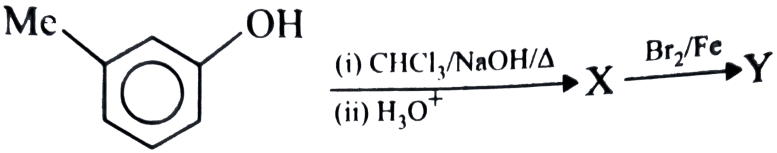
C. p-nitrobenzophenone + phenol

D. p-nitrobenzophenen + benzene

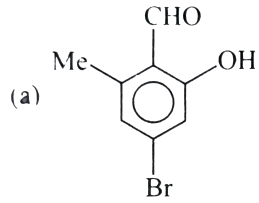
Answer: C

Watch Video Solution

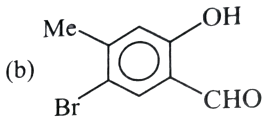
9. The product (Y) of the following sequence of the reactions would be



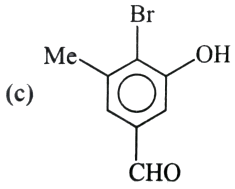
A.



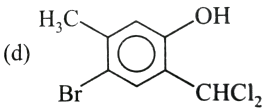
B.



C.



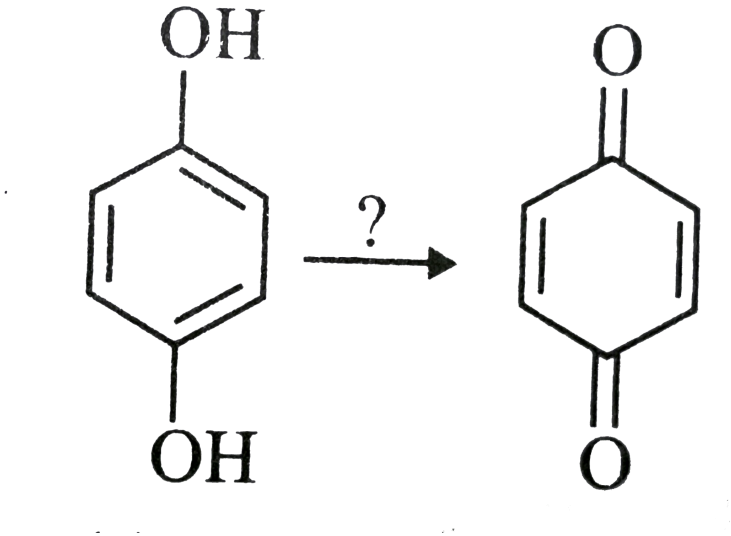
D.



Answer: B

Watch Video Solution

10. Identify the reagent (s) needed to carry out the following reaction.



A. $NaOH$

B. $LiAIH_4$

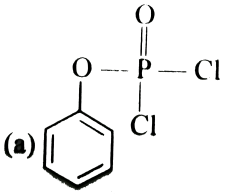
C. $Na_2Cr_2O_7, H_2SO_4 / H_2O$

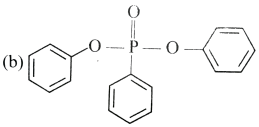
D. Na

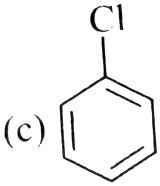
Answer: A

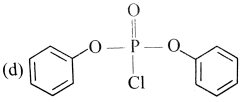
Watch Video Solution

11. When phenol reacts with PCl_5, the main product is

A. 

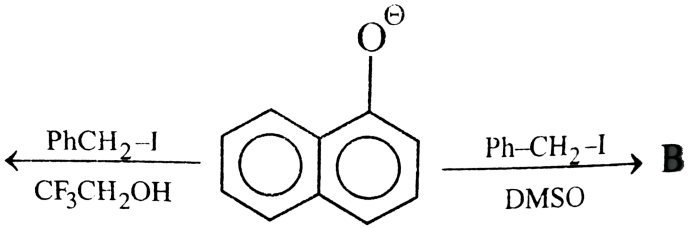
B. 

C. 

D. 

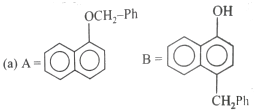
Answer: B

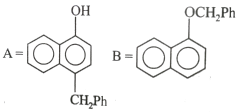
Watch Video Solution

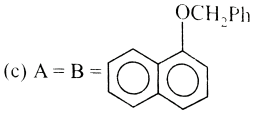
15. A 

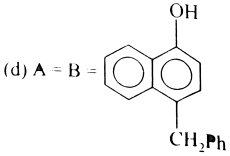
12.

'A' and 'B' respectively are

A. 

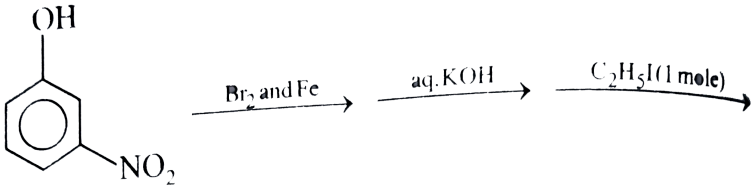
B. 

C. 

D. 

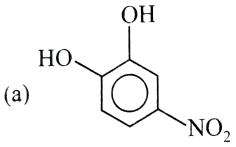
Answer: B

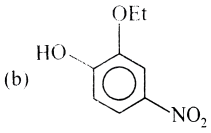
Watch Video Solution

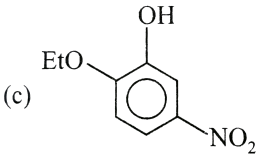
116. 

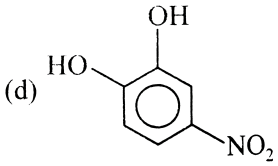
13. $\xrightarrow{H^+}$ [P]

The major product $[P]$ is

A. 

B. 

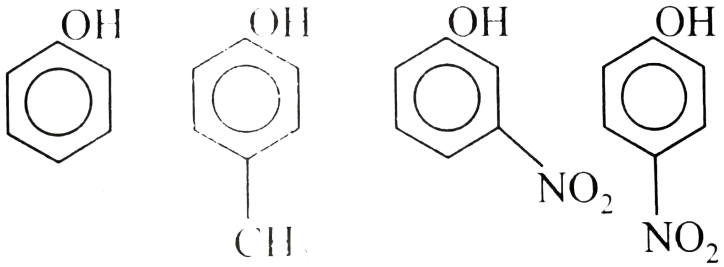
C. 

D. 

Answer: B

Watch Video Solution

14. In the following compounds,



(I) (II) (III) (IV)

the decreasing order of acidic strength is

A. $III > IV > I > II$

B. $I > IV > III > II$

C. $II > I > III > IV$

D. $IV > III > I > II$

Answer: D

Watch Video Solution

15. Which of the following reagents can be used to separate a mixture of phenol and carboxylic acid?

A. $NaOH$

B. Na_2CO_3

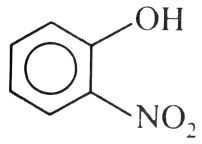
C. lime water

D. $NaHCO_3$

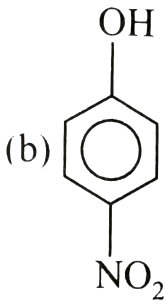
Answer: D

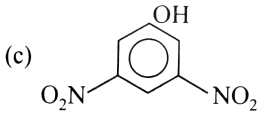
Watch Video Solution

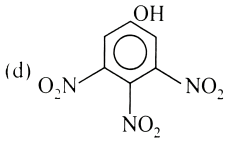
16. The compound with the lowest boiling point, that is, the most valatile compound is

(a) 

A.

B. 

C. 

D. 

Answer: A

Watch Video Solution

17. Phenol can be distinguished from aliphatic alcohol with

A. Tollens reagent

B. Schiff's base

C. $FeCI_3$

D. HCI

Answer: C

Watch Video Solution

18. Cresols are

A. Dihydric phenols

B. Hydroxy toulenes

C. Trihydric phenols

D. Triydric alcohols

Answer: B

Watch Video Solution

19. Which of following is phenolic?

A. Phthalic acid

B. Picric acid

C. Phosphoric acid

D. Phenylacetic acid

Answer: B

Watch Video Solution

20. On heating aqueous solution of benzene diazonium chloride, which is formed

A. Benzene

B. Phenol

C. Chlorobanzene

D. Aniline

Answer: B

Watch Video Solution

21. Phenolphthalein is obtained by heating phtahalic anhydride with conc. H_2SO_4 and

A. Benzyl alcohol

B. Phenol

C. Benzene

D. Benzoic acid

Answer: B

Watch Video Solution

22. Reaction of phenol with dil. HNO_3 gives

A. p and m-nitrophenols

B. Picric acid

C. $o-$ and p-nitrophenols

D. o-and m-nitrophenols

Answer: C

Watch Video Solution

23. Phenol is less acidic than

A. Ethanol

B. o-notrophenol

C. Methanol

D. p-Methylphenol

Answer: B

Watch Video Solution

24. Sodium pheoxide reacts with CO_2 at $400K$ and $4-7$ atm pressure to give

A. Benzoic acid

B. Salicylaldehyde

C. Catechol

D. Sodium salicylate

Answer: D

Watch Video Solution

25. A compound that easily undergoes bromination is

A. Benzoic acid

B. Toluene

C. Benzene

D. Phenol

Answer: D

Watch Video Solution

26. For pheonl, which of the following statements is correct

A. It has higher boiling point than toluene

B. It has lower melting point compared to aromatic hydrocarbons of comparable molecular wright

C. It is insoluble in water

D. It does not show acidic property

Answer: A

Watch Video Solution

27. When heated with NH_3 under pressure alone or in presence of zince chloride phenols are converte dinto

A. Aminophenols

B. Pheny1hydroxy1amine

C. Nitrobenzene

D. Aniline

Answer: D

Watch Video Solution

28. At low temperature phenol reacts wity Br_2 in CS_2 to form

A. m-bromophenol

B. p-bromophenol

C. o-and p-bromophenol

D. $2, 4, 6 -$ tribromophenol

Answer: C

Watch Video Solution

29. The compound obtained by heating salicylic acid with phenol in the presence of phoshorus oxychloride is

A. o-chlorobenzoy1 chloride

B. Aspirin

C. Oil of wintergreen

D. Salol

Answer: D

Watch Video Solution

30. What amount of bromine will be required to convert $2g$ of phenol into $2, 4, 6 -$ tribromphenol

A. 4.00

B. 10.22

C. 6.00

D. 20.44

Answer: B

Watch Video Solution

31. Phenol reacts with CCI_4 is presence of aqueneous alkali and forms a product which on hydrolysis gives

A. Salicyladldehyde

B. Benzaldehyde

C. Salicylic acid

D. Benzoic acid

Answer: C

Watch Video Solution

32. One mole of ohenol reacts with bromine to from tribromophenol. How much bromine is used?

A. $1.5mol$

B. $4.5mol$

C. $3mol$

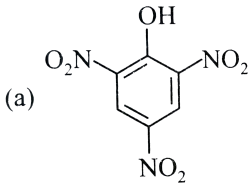
D. $6mol$

Answer: C

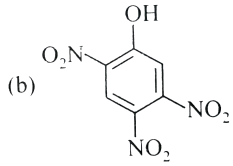
Watch Video Solution

33. TNT has the structure

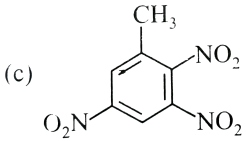
A.



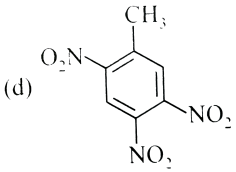
B.



C.



D.



Answer: A

Watch Video Solution

34. Which of the following is most acidic?

A. Phenol

B. Benzy 1 alcohol

C. Cyclohexanol

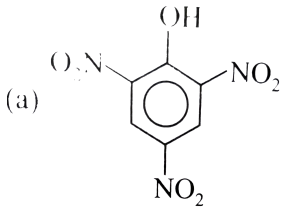
D. m-chlorophenol

Answer: D

Watch Video Solution

35. Which of the following will not react with $NaOH$?

A.



B. CH_3CONH_2

C. C_2H_5OH

D. $CH(CN)_3$

Answer: C

Watch Video Solution

36. Reaction of phenol with chloroform//sodium hydroxide to give $o-$ hydroxy benzaldehyde onvolves the formation of

A. Chlorine molecules

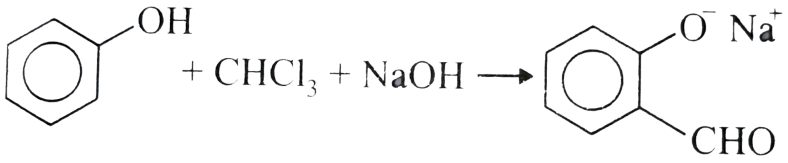
B. Trichloro carbene

C. Chlorine atoms

D. Dichloro carbene

Answer: D

Watch Video Solution

37. 

The electrophile involved in the above reaction is:

A. DichloroMethyl cation $\left(\overset{\oplus}{C}HCI_2\right)$

B. Dichlorocarbene $(:CCI_2)$

C. TrichloroMethyl anion $\left(\overset{\Theta}{C}CI_3\right)$

D. Formy1 cation $\left(\overset{\oplus}{C}HO\right)$

Answer: B

Watch Video Solution

38. Phenol when it first reacts with concentrated sulphuric acid and then will concentrated nitric acid gives:

A. $2, 4, 6 -$ trinitrobenzene

B. picric acid

C. p-nitrophenol

D. nirtobenzene

Answer: B

Watch Video Solution

39. Bakelite is obtained form phenol by reacting with:

A. $(CH_2OH)_2$

B. CH_3CHO

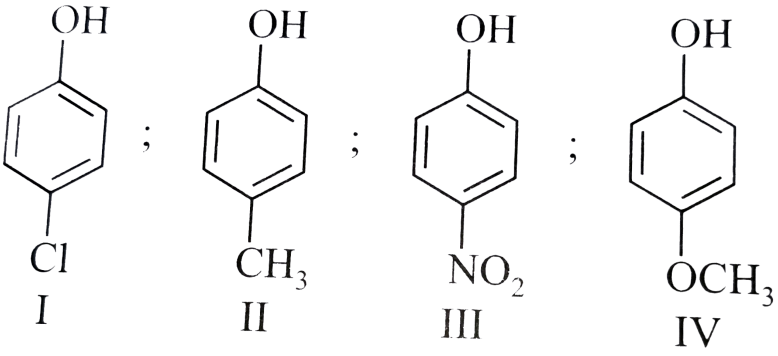
C. CH_3COCH_3

D. $HCHO$

Answer: D

Watch Video Solution

40. Arrange the following compounds in the order of decreasing acidity.



I II III IV

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

41. Ortho -nitrophenol is less soluble in water than p-and $m-$ nitrophenols because

A. o-nitrophenol is more volatile stema than those of the and p-isomers.

B. o-nitrophenol shows intramolecular H-bonding

C. o-nitrophenol shows intermolecular H-bonding

D. meting point of o-nitrophenol is lower than those of m-and $p-$ isomers

Answer: B

Watch Video Solution

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

A. $2-$ bromophenol

B. $3-$ bromophenol

C. $4-$ bromophenol

D. $2,4,6-$ tribromophenol

Answer: D

Watch Video Solution

43. The major product obtanined on interaction of phenol with sodium hydroxide and carbon dioxide is

A. benzoic acid

B. salicylaldehyde

C. salicyic acid

D. phthalic acid

Answer: C

Watch Video Solution

44. When phenol in treated with excess bromine water, it gives

A. m-Bromophenol

B. o-and p-Bromophenol

C. $2, 4 -$ Dibromophenol

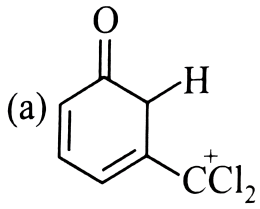
D. $2, 4, 6 -$ Tribromophenol

Answer: D

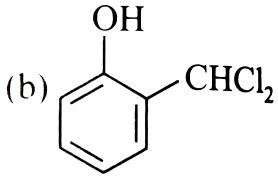
Watch Video Solution

45. When phenol reactes with $CHCl_3$ and NaOH followed by acidification, salicyladehyde is obtained. Which of the following species are involed in the above-mentioned reaction as intermediates ?

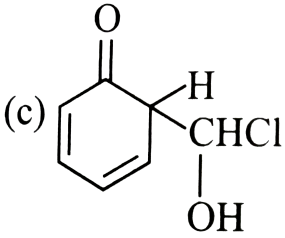
A.



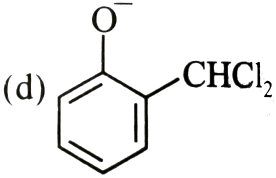
B.



C.



D.



Answer: D

Watch Video Solution

46. Benzene diazonium chloride on reaction with phenol in a basic medium gives:

A. Diphenyl ether

B. p-Hydroxy azobenzene

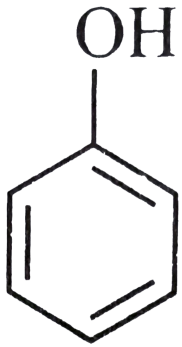
C. Chlorobenzene

D. Benzene

Answer: B

Watch Video Solution

150.



$+ C_2H_5I$

47.

A. $C_6H_5OC_2H_5$

B. $C_2H_5OC_2H_5$

C. $C_6H_5OC_6H_5$

D. C_6H_5I

Answer: B

View Text Solution

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

A. N_2, CO_2

B. CO_2, SO_2

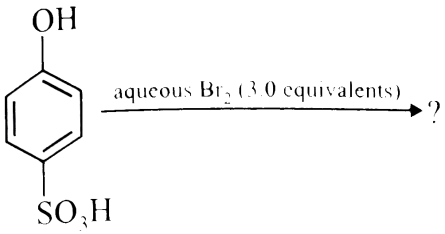
C. N_2, SO_2

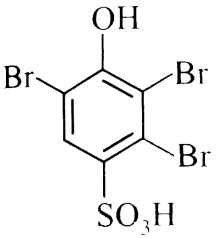
D. CO_2, CO_2

Answer: D

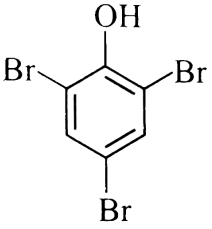
Watch Video Solution

49. The major product (s) of the following reaction is (are)

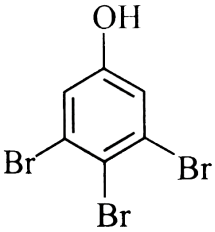




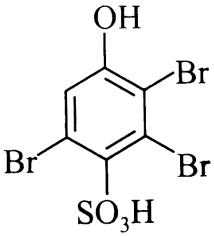
P



Q



R



S

P Q

R S

A. P

B. Q

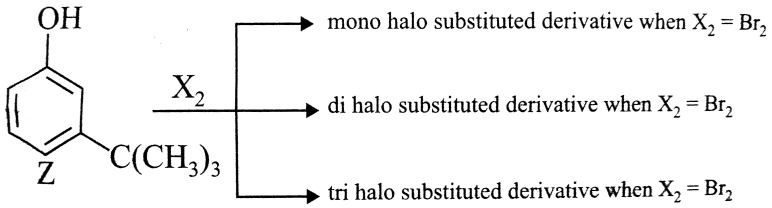
C. R

D. S

Answer: B

Watch Video Solution

50. The reactivity of compound Z with different hologebs under apppropriate conditions is give below:



The observed pattern of electrophilic substitution cannot by explained by

A. The steric effect of the halogen

B. The steric effect of the tert-butey1 group

C. The electronic effect of the phenolic group

D. The electronic effect of the tert-buty`1 group

Answer: D

View Text Solution

51. The strongest acid among the following aromatic compounds is

A. ortho-nitrophenol

B. `para-chlorophenol

C. para-nitrophenol

D. mata-nitrophenol

Answer: C

Watch Video Solution

52. In the Liebermann's nitroso reaction, sequential changes in the colour of phenol occurs as

A. Brown or red $\rightarrow$ green $\rightarrow$ red $\rightarrow$ depp blue

B. Red $\rightarrow$ depp blue $\rightarrow$ greeen

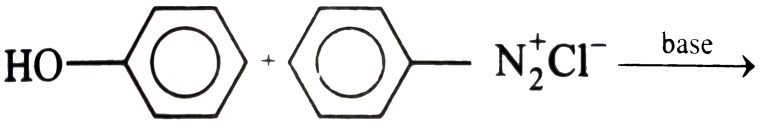
C. Red $\rightarrow$ green $\rightarrow$ white

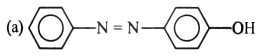
D. White $\rightarrow$ red $\rightarrow$ green

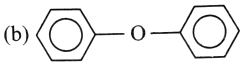
Answer: A

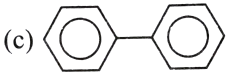
Watch Video Solution

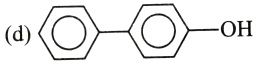
53. Complete the following reaction



A. 

B. 

C. 

D. 

Answer: A

Watch Video Solution

Ethers

1. Consider the following reactions which are carried out at the same temperature

$$CH_3 - Br + OH^{\Theta} \xrightarrow{EtOH} CH_3 - OH + BrQ \ldots (i)$$

$$CH_3Br + OH^{\Theta} \xrightarrow{DMSO} CH_3 - OH + BrQ \ldots (ii)$$

Which of the following statement is correct about these reactions

A. Both the reactions take place at the same rate

B. The first reactions take faster than second reaction.

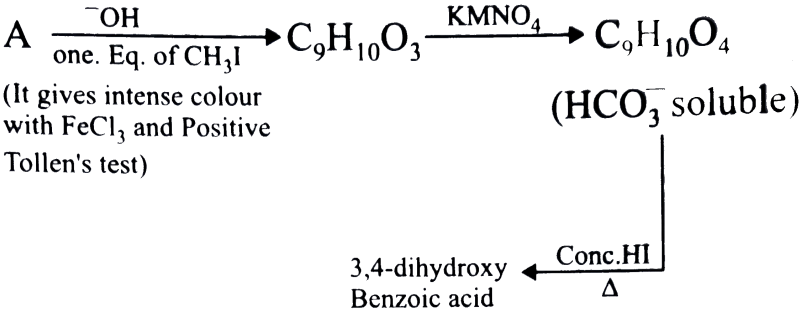
C. The second reactions take place faster than first reaction.

D. Both the reactions take place by S_N1 mechanisum

Answer: B

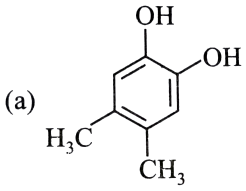
Watch Video Solution

2.

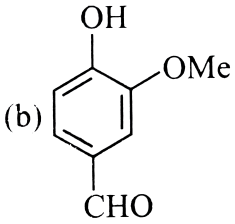


Starting substrate 'A' is

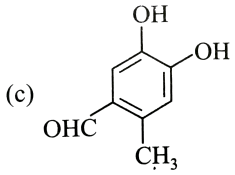
A.



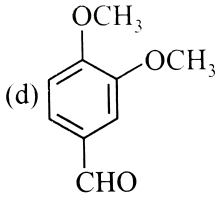
B.



C.



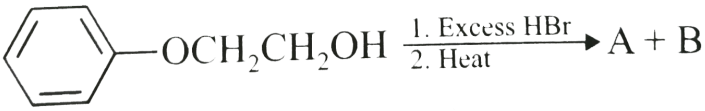
D.



Answer: B

Watch Video Solution

3. What are the products of the following reaction?



A. $Br - C_6H_4 - OCH_2CH_2 - Br$

B. $Ph - Br + Br - CH_2CH_2 - OH$

C. $Ph - Br + Br - CH_2CH_2 - Br$

D. $Ph - OH + CH_3 - CHBr_2$

Answer: D

Watch Video Solution

4. Equimolar quantities of ethanol and methanol are heated with conc. H_2SO_4. The product formed is

A. $C_2H_5OC_2H_5$

B. CH_3OCH_3

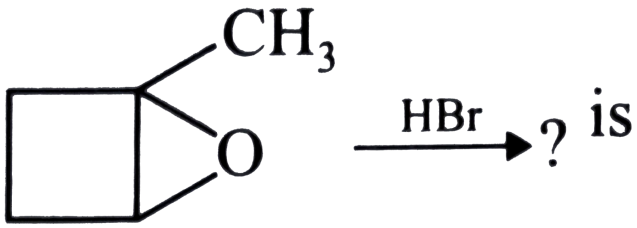
C. $C_2H_5OCH_3$

D. all the these

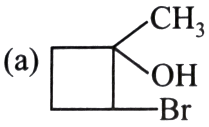
Answer: D

Watch Video Solution

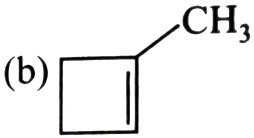
5. The product in the reaction



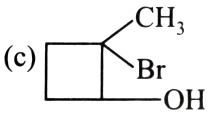
A.



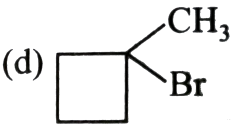
B.



C.



D.



Answer: C

Watch Video Solution

Watch Video Solution

6. The Williamson ether synthesis follows the following mechanism-

A. Nucleophilic substitution

B. Nucleophilic addition

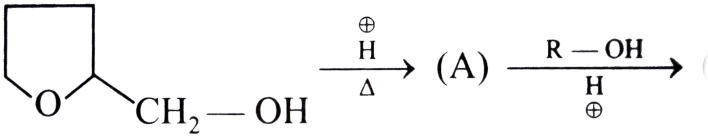
C. Electrophilic addition

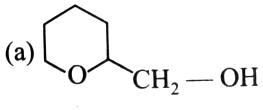
D. Electrophilic substitution

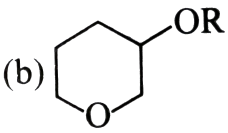
Answer: D

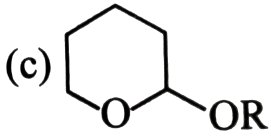
Watch Video Solution

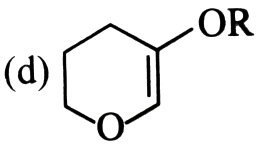
7. Product (B) in the following reaction is



A. 

B. 

C. 

D. 

Answer: B

Watch Video Solution

8. Accodring to Lewis concept of acids and bases, ether is

A. Acidic

B. Amphoteric

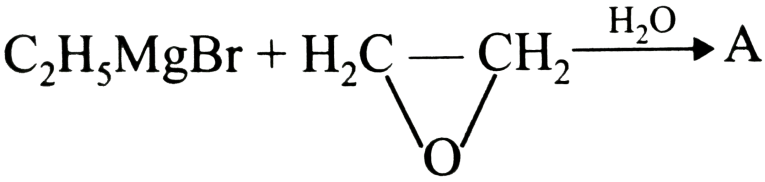
C. Neutral

D. Basic

Answer: D

Watch Video Solution

9. In the following reaction `'A' is



A. $C_2H_5CH_2CHO$

B. $C_2H_5CH_2OH$

C. $C_2H_5CH_2CH_2OH$

D. C_2H_5CHO

Answer: C

Watch Video Solution

10. Anisole can be prepared by the action of Methyl iodide on sodium phenate. The reaction is called

A. Fittig reaction

B. Etard reaction

C. Wurtz reaction

D. Williamson reaction

Answer: D

Watch Video Solution

11. Methylphenyl`ether can be obtained by reacting

A. Methanol and phenol

B. Methoxide ions and bromobenzene

C. Phenolate ions and methyl iodide

D. Bromo benzene and Methyl bromide

Answer: C

Watch Video Solution

12. Which one of the following reactions does not yield and alkyl halide?

A. DiEthyl ether $\xrightarrow{reduction} X \xrightarrow{SO_2Cl_2}$

B. DiEthylether $+ HI$

C. DiEthylether and PCl_5

D. DiEthylether $+ Cl_2$

Answer: D

Watch Video Solution

13. The reagent used for the dehydration of an alcohol is

A. Phosphorus pentachloride

B. Aluminium oxide

C. Calcium chloride

D. Sodium chloride

Answer: B

Watch Video Solution

14. Action of diazomethane on phenol liberates

A. N_2

B. H_2

C. O_2

D. CO_2

Answer: A

Watch Video Solution

15. The products formed in the following reaction

$C_6H_5 - O - CH_3 + HI \xrightarrow{heat}$ are

A. $C_6H_5 - I$ and $CH_3 - OH$

B. C_6H_6 and CH_3OI

C. $C_6H_5 - CH_3$ and HOI

D. $C_6H_5 - OH$ and $CH_3 - I$

Answer: D

Watch Video Solution

16. $(CH_3)_3 - C - O - CH_2 - C_6H_5$ can be prepared from Williamson's synthesis, using:

A. $(CH_3)_3 - C - Cl$ and $C_6H_5CH_2ONa$

B. $C_6H_5CH_2Cl$ and $(CH_3)_3C - ONa$

C. $(CH_3)_3C - O - CH_2 - Cl$ and C_6H_5ONa

D. All of these

Answer: B

Watch Video Solution

17. Methy1 $-$ tert-buty1 ether on heating with HI of one molar concentration gives

A. $CH_3OH + (CH_3)_3CI$

B. $CH_3I + (CH_3)_3COH$

C. $CH_3I + (CH_3)_3CI$

D. None of the above

Answer: B

Watch Video Solution

18. In the given reaction:

$CH_3 - CH_2 - CH_2 - O - CH_2 - CH_3 \xrightarrow{HCI\,/\,\Delta} [X] + [Y][X]$ and $[Y]$ wil respectively be:

A. $CH_3 - CH_2 - CH_2OH$ and $CH_3 - CH_2 - CI$

B. $CH_3 - CH_2 - CH_2 - CI$ and $CH_3 - CH_2 - OH$

C. $CH_3 - CH_2 - CH_2 - CI$ and $CH_2 = CH_2$

D. $CH_3 - CH = CH_2$ and $CH_2 = CH_2$

Answer: A

Watch Video Solution

19. Epoxides are

A. Ethers with another functional group

B. Not ethers

C. Aryl-alkyl ethers

D. Cyclic ethers

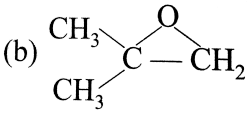
Answer: D

Watch Video Solution

20. $(CH_3)_3CCI \xrightarrow[\Delta]{alc.KOH} X \xrightarrow{CF_3CO_3H} Y$

The product $'Y'$ is

A. $CH_2 = CH - CH_2OH$

B. (b) 

C. $CH_3COCH_2CH_3$

D. $(CH_3)_2CHCH_2OH$

Answer: B

Watch Video Solution

21. An ether is more volatile than alcohol having the same molecular formula. This is due to:

A. Intermolecular $H-$ bonding in ethers

B. Intermolecular H-bonding in alcohols

C. Dipolar character of ethers

D. Alcohols have resonating structures.

Answer: B

Watch Video Solution

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

A. CH_3CHO and CH_3Br

B. $BrCH_2CHO$ and CH_3OH

C. $BrCH_2 - CH_2 - OCH_3$

D. $H_3C - CHBr - OCH_3$

Answer: D

Watch Video Solution

23. DiEthyl ether on heating with conc. HI gives two moles of

A. ethanol

B. iodoform

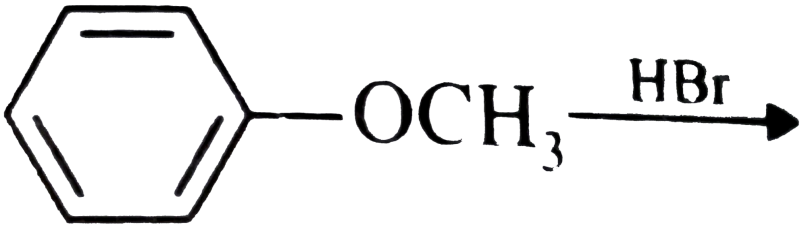
C. enthy1 iodide

D. Methyliodide

Answer: C

Watch Video Solution

24. In the reaction



the products are

A. 

B. (b)  Br and CH_3Br

C. (c)  Br and CH_3OH

D. (d)  OH and CH_3Br

Answer: D

Watch Video Solution

25. Oxygen atom in ether is

A. Very active

B. Replaceable

C. Comparatively inert

D. Active

Answer: C

Watch Video Solution

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

A. 180°

B. 90°

C. 110°

D. 160°

Answer: C

Watch Video Solution

27. Formation of diEthyl ether form ethanol is based on a

A. Dehydration reaction

B. Dehydrogenation reaction

C. Hydrogenation reaction

D. Heterolytic fission reaction

Answer: A

Watch Video Solution

28. An organic compound (a) reacts with sodium metal and forms (b). On heating with conc. H_2S0_4 (a) gives diethyl ether. (a) and (b) are respectively

A. C_2H_5OH and C_2H_5ONa

B. C_3H_7OH and CH_3ONa

C. CH_3OH and CH_3ONa

D. C_4H_9OH and C_4H_9ONa

Answer: A

Watch Video Solution

29. In the following reaction

$C_2H_5OC_2H_5 + 4H \xrightarrow{RedP + HI} 2X + H_2O$ X is

A. Ethane

B. Ethylene

C. Butane

D. Propane

Answer: A

Watch Video Solution

30. DiEthylether obsorbs oxygen to form

A. Red coloured sweet smelling compound

B. Acetic acid

C. Ether suboxide

D. Ether peroxide

Answer: D

Watch Video Solution

31. Ether is formed when Ethyl alcohol is heated with conc. H_2SO_4The conditions are

A. Excess of H_2SO_4 and $170^\circ C$

B. Excess of C_2H_5OH and $140^\circ C$

C. Excess of C_2H_5OH and $180^\circ C$

D. Excess of conc. H_2SO_4 and $100^\circ C$

Answer: B

Watch Video Solution

32. The ether that undergoes electrophilic substitution reactions is

A. $CH_3OC_2H_5$

B. $C_6H_5OCH_3$

C. CH_3OCH_3

D. $C_2H_5OC_2H_5$

Answer: B

Watch Video Solution

33. Etherates are

A. Ethers

B. Solution in ether

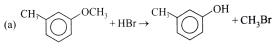
C. Complexes of ethers with Lewis acid

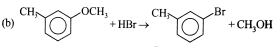
D. Complexes of ethers with Lewis acid

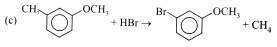
Answer: C

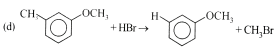
Watch Video Solution

34. Which of the following reactions is correctly represented?

A. 

B. 

C. 

D. 

Answer: A

Watch Video Solution

Section B - Assertion Reasoning

1. Assertion: Solubility of n-alcohol in water decreases with increases in molar mass.

Reason: The hydrophobic neture of alky1 chain increases.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: A

Watch Video Solution

2. Assertion: p-dimethoxybenzene is polar.

Reason: The different orienations fo methoxy group in ring produce dipole.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: A

Watch Video Solution

3. Assertion: C_2H_5O is more reactive than C_2H_5CI.

Reason: I being less electronegative than CI.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: B

Watch Video Solution

4. Assertion: Ethanol is more viscous than glycerol.

Reason: Both posses $H-$ bonding.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: D

Watch Video Solution

5. Asserion: A small amount of ethanol is added to $CHCI_3$ bottles.

Reason: It acts as negative catalyst for the oxidation of $CHCI_3$ to $COCI_2$.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: A

Watch Video Solution

6. Assertion: Alcohols cannot be dried by $CaCI_2$.

Reason: $CaCI_2$ forms solvated molecules with alcohols.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: A

Watch Video Solution

7. Asseriton: Methanol is stronger acid than water.

Reason: All alcohols are stronger acod than water.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: C

Watch Video Solution

8. Assertion: Acid cataysed dehydration of t-butanol is faster than n-butanol.

Reason: The order of stability of carbocation is $3^{\circ} > 2^{\circ} > 1^{\circ}$.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: A

Watch Video Solution

9. Assertion: Alcohols give only substitution products with HX and not elimination product.

Reason: X^- is a very weak base which cannot abstract proton from alcohol.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: A

Watch Video Solution

10. Assertion: p-nitrophenol is a stronger acid than o-nitrophenol.

Reason: Intramolecular hydrogen bonding makes the o-isomer weaker than the $p-$ isomer.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: A

Watch Video Solution

11. Assertion: $o-$ and p-nitrophenol can be separated by steam distillation.

Reason: $o-$ nitrophenols have intramolecular hydorgen bonding while p-nitrophenols exists as associated molecules.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: A

Watch Video Solution

12. Assertion: Alcohol and ohenol can be distinguished by sodium hydroxide.

Reason: Phenol is more acidic than alcohol.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: A

Watch Video Solution

13. Assertion: Isobutanal does not give iodoform test.

Reason : It does not have α-hydrogen.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: A

Watch Video Solution

14. Assertion: $m-$ Methoxyphenol is a stronger acid than p-methoxyphenol.

Reason: Methoxy group exerts $+R$-effect at both o-and $p-$ positions.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: B

Watch Video Solution

15. Assertion: $2-$ Phentanol and $3-$ pentanol cannot be distinguished by iodofrom test.

Reason: $2-$ Phetanol and $3-$ phentanol both are secondary alcohols.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: D

Watch Video Solution

16. Assertion: equimolar mixture of conc. HCI and anhydrous zinc chloride is called Lucas reagent.

Reason: Lucas reeagent can be used to distinguish between methanol and ethanol.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: C

Watch Video Solution

17. Assertion: Anisole undergoes eletctrophilic substitution at $o-$ and $p-$ positions.

Reason: Anisole is less reactive than phenol towards electrohphilic substitution reactions.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: B

Watch Video Solution

18. Assertion: Alcohols have higher boiling points than ethers of comparable molecular masses.

Reason: Alcohols and ethers are isomerism in nature.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: B

Watch Video Solution

19. Assertion. t-Buty1 Methyl ether is not prepared by rthe reaction of $t-$ buty1 bromide with sodium methoxide.

Reason: Sodium methoxide is a strong nucleophile.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: B

Watch Video Solution

20. Assertion: Benzenediazonium chloride on boiling with water gives phenol.

Reason: $C - N$ bond is polar.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

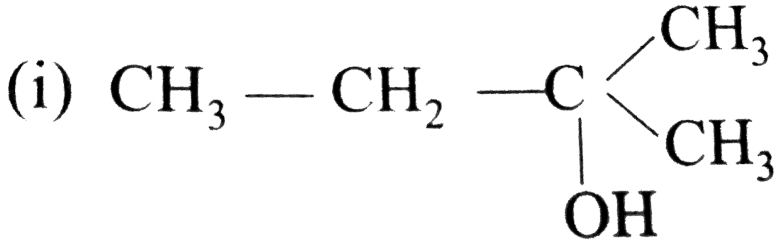
D. If assertion if false but reason is ture.

Answer: B

Watch Video Solution

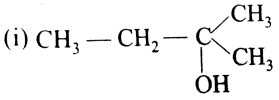
AIPMT/NEET Questions

1. Action of water in the presence of sulphuric acid with the following alkenes

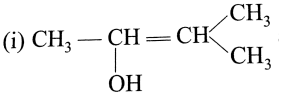


(i)

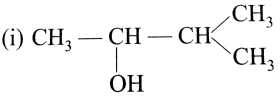
(ii) $CH_3 - CH = H_2$ gives

A. (i) 

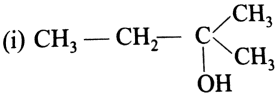
(ii) $CH_3 - \underset{\underset{OH}{|}}{CH} - CH_3$

B. (i) 

(ii) $CH_3 - CH_2 - CH_2OH$

C. (i) 

$CH_3 - \underset{\underset{OH}{|}}{CH} - CH_3$

D. (i) 

$CH_3 - CH_2 - CH_2OH$

Answer: A

View Text Solution

2. Which of the following reagents convert the propene to 1-propanol?

A. H_2O, H_2SO_4

B. Aqueous KOH

C. $MgSO_4$, $NaBH_4 / H_2O$

D. B_2H_6, H_2O_2, OH^-

Answer: B

Watch Video Solution

3. Compound 'A' reacts with PCI_5 to given 'B' which one treatement with KCN followed by hydrolysis gave propanoic acid as the product. What is 'A'?

A. Ethane

B. Propane

C. Ethyl chloride

D. Ethyl alcohol

Answer: D

Watch Video Solution

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

A. CH_3OH

B. CH_3CH_2OH

C. $CH_3CH(OH)CH_3$

D. $CH_3CH_2CH(OH)CH_3$

Answer: A

Watch Video Solution

5. The general molecular formula, which represents the homologous series of alkanols is

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

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

C. $C_nH_{2n}O_2$

D. $C_nH_{2n}O$

Answer: B

Watch Video Solution

6. Ethylene oxide when treated with Grignard reagent yields

A. cyclopropy1 alcohol

B. primary alcohol

C. secondary alcohol

D. tertiary alcohol

Answer: B

Watch Video Solution

7. The major organic product in the reaction

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

A. $CH_3\underset{\underset{I}{|}}{O}C(CH_3)_2$

B. $CH_3I + (CH_3)_2CHOH$

C. $CH_3OH + (CH_3)_2CHI$

D. $ICH_2OCH(CH_3)_2$

Answer: C

Watch Video Solution

8. In the reaction, the produces formed are

$(CH_3)_2CH_2.\,CH_2.\,O.\,CH_2CH_3 + HI \xrightarrow{Heated}$

A. $(CH_3)_2CHCH_2I + CH_3CH_2OH$

B. $(CH_3)_2CH.CH_2OH + C_2H_6$

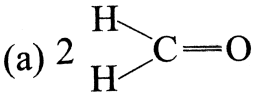
C. $(CH_3)_2CH.CH_2OH + C_2H_5I$

D. $(CH_3)_2CH.CH_2I + CH_3CH_2OH$

Answer: A

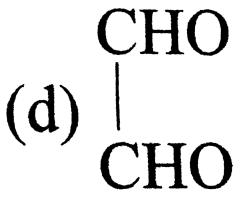
Watch Video Solution

9. CH_2OHCH_2OH on heating with periodic acid gives

A. (a) 2 

B. $2CO_2$

C. $2HCOOH$

D. (d) 

Answer: A

Watch Video Solution

10. Consider the following reaction

ethanol $\xrightarrow{PBr_3} X \xrightarrow{alc.KOH} Y \xrightarrow[(ii)\,H_2O,heat]{(i)\,H_2SO_4,\text{room temp.}} Z$ the product Z is

A. CH_3CH_2OH

B. $CH_2 = CH_2$

C. $CH_3CH_2 - O - CH_2 - CH_3$

D. $CH_3 - CH_2 - O - SO_3H$

Answer: A

Watch Video Solution

11. Consider the following reaction

Phenol $\xrightarrow[\text{dust}]{Zn} X \xrightarrow[\substack{\text{Anhydrous} \\ AlCl_3}]{CH_3Cl} Y \xrightarrow[KMnO_4]{\text{Alkaline}} Z$

The product Z is

A. benzoic acid

B. toulene

C. benzaldeyde

D. benzene

Answer: A

Watch Video Solution

12. Glycerol on being heated with an excess of HI produces

A. $2-$ iodopropane

B. allyl iodide

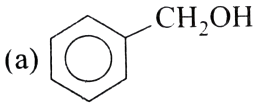
C. propane

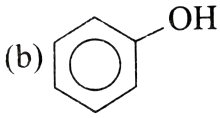
D. glycerol tri-iodide

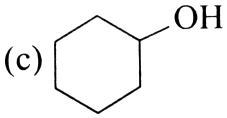
Answer: B

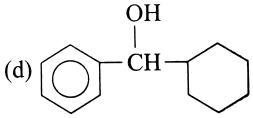
Watch Video Solution

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

A. 

B. 

C. 

D. 

Answer: B

Watch Video Solution

14. Among the following ethers, which one will produce methyl alcohol on treatment with hot concentrated HI?

A. $CH_3 - CH_2 - \underset{\displaystyle CH_3}{\underset{|}{CH}} - O - CH_3$

B. $CH_3 - \underset{\displaystyle CH_3}{\overset{\displaystyle CH_3}{\overset{|}{\underset{|}{C}}}} - O - CH_3$

C. $CH_3 - \underset{\displaystyle CH_3}{\underset{|}{CH}} - CH_2 - O - CH_3$

D. $CH_3 - CH_2 - CH_2 - CH_2 - O - CH_3$

Answer: B

Watch Video Solution

15. Among the following sets of reactants which one produces anisole?

A. $CH_3CHO, RMgX$

B. $C_6H_5OH, NaOH, CH_3I$

C. $C_6H_5OH,$ netural $FeCI$

D. $C_6H_5CH_3, CH_3COCI, AICI_3$

Answer: B

Watch Video Solution

16. Which of the following will not be soluble in sodium hydrogen carbonate?

A. $2, 4, 6 -$ Trinitrophenol

B. Benzoic acid

C. o-Nitrophenol

D. Benzene sulphonic acid

Answer: C

Watch Video Solution

17. The reaction

$$CH_3 - \underset{\underset{CH_3}{|}}{\overset{CH_3}{\overset{|}{C}}} - ONa + CH_3CH_2Cl \rightarrow CH_3 - \underset{\underset{CH_3}{|}}{\overset{CH_3}{\overset{|}{C}}} - O - CH_2 - CH_3$$

is called

A. Etard reaction

B. Gattermann-Koch reaction

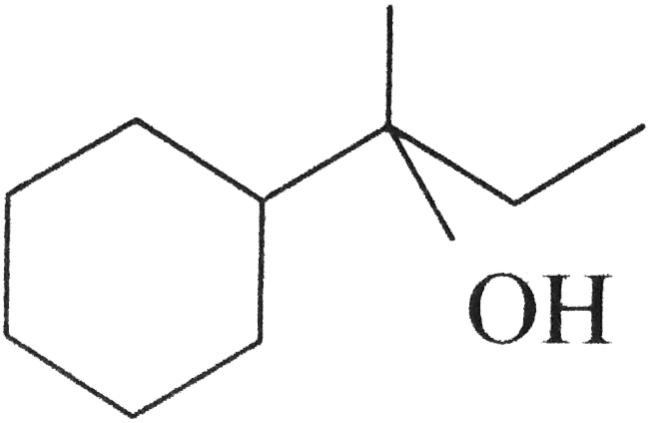
C. Williamson synethesis

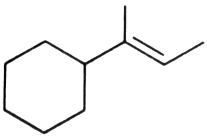
D. Williamson continuous etherification process.

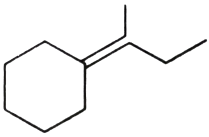
Answer: C

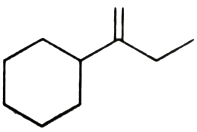
Watch Video Solution

18. Which of the following is not the product of dehydration of



A. (a) 

B. (b) 

C. (c) 

D.

Answer: D

Watch Video Solution

19. Reaction of phenol with chloroform in presence of dilute sodium hydroxide finally introduce which one of the following fuctional group?

A. $-CHCI_2$

B. $-CHO$

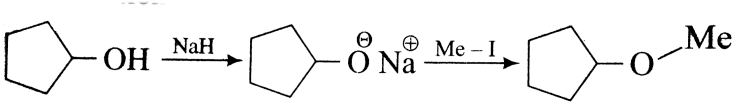
C. $-CH_2CI$

D. $-COOH$

Answer: B

Watch Video Solution

20. The reaction



can be classified as:

A. Williamson alcohol synthesis reaction

B. Williamson ether synthesis reaction

C. Alcohol formation reaction

D. Dehydration reaction

Answer: B

Watch Video Solution

21. Which of the following reagents would distinguish ciscyclopenta $-1,2-$ diol from the trans-isomer?

A. Aluminium isopropoxide

B. Acctone

C. Ozane

D. MnO_2

Answer: B

Watch Video Solution

22. The heating of pheny1-Methyl ethers with HI produces

A. Iodobenzene

B. Phenol

C. Benzene

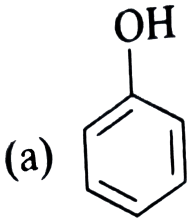
D. Ethyl chlorides

Answer: B

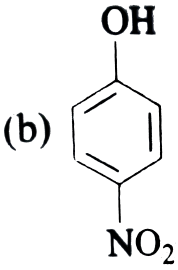
Watch Video Solution

23. Which one is the most acidic compound?

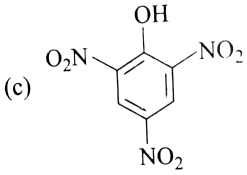
A.



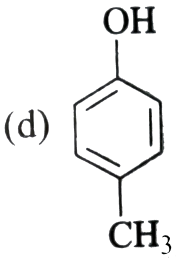
B.



C.



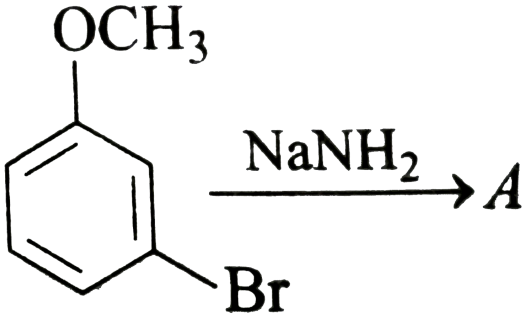
D.

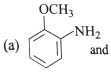


Answer: C

Watch Video Solution

24. Identify A and predict the type of reaction



A. (a)  and elimination addition reaction

B. (b)  and cine substitution reaction

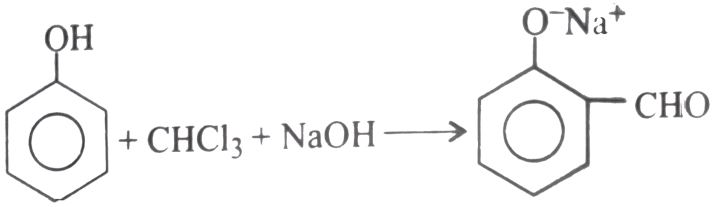
C. (c)  and cine substituion reaction

D. (d)  and cine substituion reaction

Answer: D

Watch Video Solution

25. In the reaction



the electrophile involved is

A. dichloroMethyl cation $\left(\overset{\oplus}{C}HCI_2\right)$

B. fromy1 cation $\overset{\oplus}{C}HO$

C. dichloromathy1 anion $\left(\overset{\ominus}{C}HCI_2\right)$

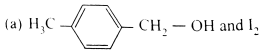
D. dichlorocarbene $(:CCI_2)$

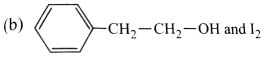
Answer: D

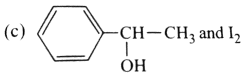
Watch Video Solution

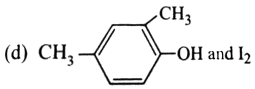
26. Compound A, $C_8H_{10}O$, is found to react with $NaOI$ (produced by reacting Y with $NaOH$) and yields a yellow precipitate with characteristic smell.

A and Y are respectively

A. 

B. 

C. 

D. 

Answer: C

Watch Video Solution

27. The compound A on treatement with Na gives B, and with PCI_5 gives C. B and C react togther to give diEthyl ether. A, B and C are in

the other

A. $C_2H_5OH, C_2H_6, C_2H_5CI$

B. $C_2H_5OH, C_2H_5CI, C_2H_5Ona$

C. $C_2H_5CI, C_2H_6, C_2H_5OH$

D. $C_2H_5OH, C_2H_5ONa, C_2H_5CI$

Answer: D

Watch Video Solution

AIIMS Questions

1. Gycerine has

A. one primary and two secondary $-OH$ groups

B. one secondary and two primary $-OH$ groups

C. three primary $-OH$ groups

D. three secondary $-OH$ groups

Answer: B

Watch Video Solution

2. Which of the following are isomers?

A. Methyl alcohol and diMethyl ether

B. Ethyl aclohol and diMethyl ether

C. Acetone and acetaldehyde

D. Propinoic acid and propanone

Answer: B

Watch Video Solution

3. Wood spirit is known as

A. methanol

B. ethanol

C. acetone

D. benzene

Answer: A

Watch Video Solution

4. Coconut oil upon alkaline hydroysis gives

A. Glycol

B. Alcohol

C. Glycerol

D. Ethyl ene oxide

Answer: C

Watch Video Solution

5. An organic compound (a) reacts with sodium metal and forms (b). On heating with conc. H_2S0_4 (a) gives diethyl ether. (a) and (b) are respectively

A. C_2H_5OH anmd C_2H_5ONa

B. C_3H_7OH and CH_3ONa

C. CH_3OH and CH_3ONa

D. C_4H_9OH and C_4H_9ONa

Answer: A

Watch Video Solution

6. 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 increases with increasing molecular mass

D. The lower alcohols are soluble in water

Answer: B

Watch Video Solution

7. When phenol is treated with excess bromine water, it gives

A. m-bromophenol

B. $2, 4$-dibromophenol

C. $2, 4, 6 -$ tribromophenol

D. a mixture of $o -$ and p-bromophenols

Answer: C

Watch Video Solution

8. Lucas test is done for

A. alcohols

B. amines

C. diEthyl ether

D. glacial acetic acid

Answer: A

Watch Video Solution

9. When phenol Is heated with ammonia at $300^{\circ}C$ in the presence of anhydrous $ZnCl_2$, it is converted into

A. primary amine

B. secondary amine

C. tertiary amine

D. both (b) and (c)

Answer: A

Watch Video Solution

10. Isopropy1 alochols heated at $300^\circ C$ with copper catayst to form

A. acetone

B. diMethyl ether

C. acetaldehyde

D. ethane

Answer: A

Watch Video Solution

11. Conc. H_2SO_4 heated with excess of C_2H_5OH at $1406^\circ C$ to form

A. $CH_3CH_2 - O - CH_3$

B. $CH_3CH_2 - O - CH_2CH_3$

C. $CH_3CH_2 - O - CH_2 - CH_2 - CH_3$

D. $CH_2 = CH_2$

Answer: C

Watch Video Solution

12. When primary alcohol is oxidised with chlorine, it produces

A. $HCHO$

B. CH_3CHO

C. CCI_3CHO

D. C_3H_7CHO

Answer: C

Watch Video Solution

13. On boiling with concentrated hydrobromic acid, pheny1 Ethyl ether will yield

A. phenol and ethyl ether

B. phenol and ethane

C. bromobenzene and ethanol

D. bromobenzene and ethane

Answer: A

Watch Video Solution

14. What is an antifreeze?

A. Glycol

B. Ethylalcohol

C. Water

D. Methanol

Answer: A

Watch Video Solution

15. Prop-1-ol can be prepared from propene

A. H_2O / H_2SO_4

B. $Hg(OAc)_2 / H_2O$ followed by $NaBH_4$

C. B_2H_6 followed by H_2O_2

D. CH_3CO_2H / H_2SO_4

Answer: C

Watch Video Solution

16. Because of resonance, the oxygen atom of $-OH$ group of phenol

A. acquires positive charge

B. acquires negative charge

C. remains unaffected

D. liberates

Answer: A

Watch Video Solution

17. The compound obtained by heating salicylic acid with phenol in the presence of phoshorus oxychloride is

A. Salol

B. Aspirin

C. Oil of wintergreen

D. o-chlorobenzoyl chloride

Answer: A

Watch Video Solution

18. $CH_3 - \underset{CH_3}{\overset{H_5C_6}{\overset{|}{\underset{|}{C}}}} - \underset{H}{\overset{H}{\overset{|}{\underset{|}{C}}}} - CH_3 \xrightarrow[\text{room temp}]{HCI} p.$

The product P is

A. $CH_3 - \underset{CI}{\overset{H_5C_6}{\overset{|}{\underset{|}{C}}}} - \underset{H}{\overset{CH_3}{\overset{|}{\underset{|}{C}}}} - CH_3$

B. $CH_3 - \underset{CH_3}{\overset{H_5C_6}{\overset{|}{\underset{|}{C}}}} - \underset{CI}{\overset{CH_3}{\overset{|}{\underset{|}{C}}}} - H$

C. $CH_3 - \underset{CH_3}{\overset{C_6H_5}{\overset{|}{\underset{|}{C}}}} - CH = CH_3$

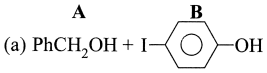
D. $CH_2 = \underset{}{\overset{H_5C_6}{\overset{|}{C}}} - \underset{H}{\overset{CH_3}{\overset{|}{\underset{|}{C}}}} - CH_3$

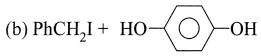
Answer: A

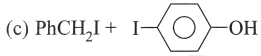
Watch Video Solution

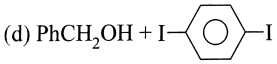
19.

The product (A) and (B) are:

A. 

B. 

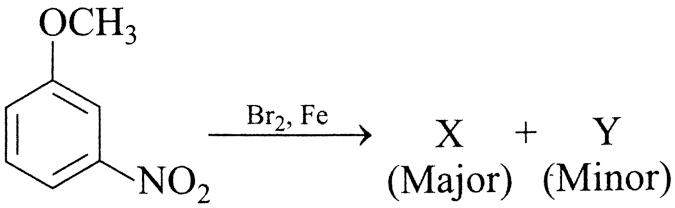
C. 

D. 

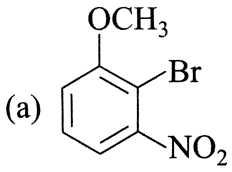
Answer: B

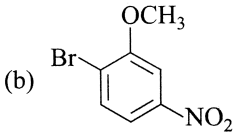
View Text Solution

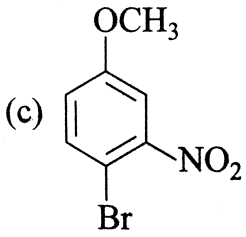
20. Complete the following reaction

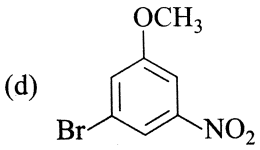
47. 

Identify X.

A. 

B. 

C. 

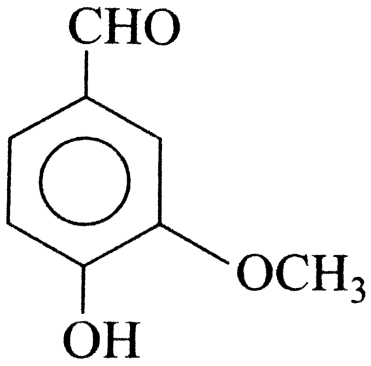
D. 

Answer: C

Watch Video Solution

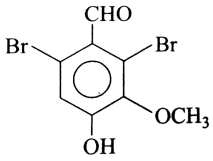
21. Complete the following reaction

48.



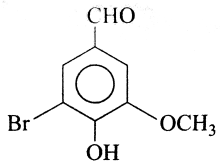
$\xrightarrow{Br_2/CCl_4}$

(a)



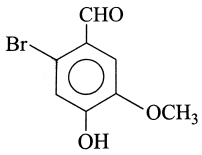
A.

(b)

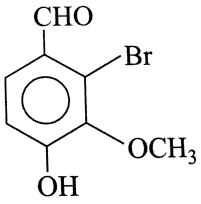


B.

C. (c)



D. (d)

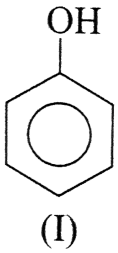


Answer: B

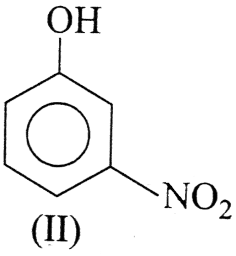
Watch Video Solution

22. Correct order of acidic strength

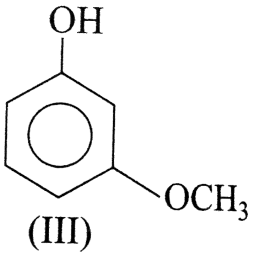
(I)



(I)



(II)



(III)

(II) (III)

A. $I > II > III$

B. $II > III > I$

C. $I > III > II$

D. $II > III > I$

Answer: B

Watch Video Solution

Assertion-Reasoning Questions

1. Asserion: Lucas reagent is a micture of anhydrous $ZnCI_2$ and concentrate HCI.

Reaon: Primary alcohol produces ppt. with Lucas reagents.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

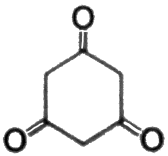
B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: C

Watch Video Solution

2. Assertion:  will show tautomerism.

Reason: It contains $\alpha -$ hydrogen atom near keto group.

A. If both assertion and reason are true and the reason is the correct explanation of the assertion.

B. If both assertion and reason are true but reason is not the correct explanation of the assertion.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: A

Watch Video Solution

3. Assertion: Resorchiral turns $FeCI_3$ solution purple.

Reason: Reasorcinal has phenolic group.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: A

Watch Video Solution

4. Assertion: The pK_a of acetic acid is lower than that of phenol.

Reason : Phenoxide ion is more resonance sabilised.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

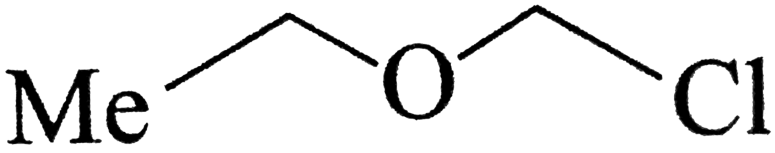
B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

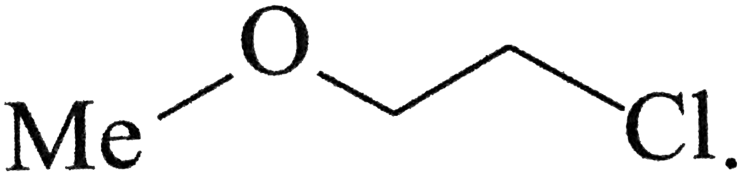
D. If assertion if false but reason is ture.

Answer: C

Watch Video Solution



5. Assertion:



Reason:

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: D

View Text Solution

View Text Solution

6. Assertion: Phenol forms $2, 4, 6 -$ tribromophenol on treatement with Br_2 water at $373K$.

Reason: Phenol is $o - p$-directing group.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

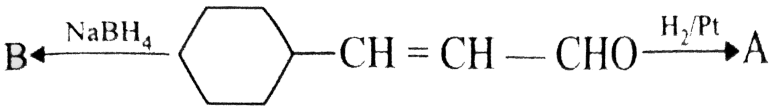
C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

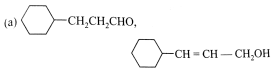
Answer: B

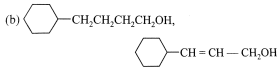
Watch Video Solution

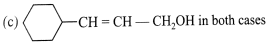
Section D - Chapter End Test

1. 

A and B are:

A. (a) 

B. (b) 

C. (c) 

D. (d) 

Answer: B

Watch Video Solution

2. Dipole moment of $CH_3CH_2CH_3(I), CH_3CH_2OH(II)$ and $CH_3CH_2F(III)$ is in order

A. $I < II < III$

B. $I < II < III$

C. $I < III < II$

D. $III < I < II$

Answer: A

Watch Video Solution

3. Acidic nature is more for

A. $o -$ amino phenol

B. m-amino phenol

C. $p -$ amino phenol

D. All have equal $K_a s$

Answer: B

Watch Video Solution

4. Phenol can be distinguished from aliphatic alcohol with

A. Tollens reagent

B. Schiff's base

C. Netural $FcCI_3$

D. HCI

Answer: C

Watch Video Solution

5. The strongest acid among the following is

A. $p-$ chlorophenol

B. p-nitrophenol

C. $m-$ nitrophenol

D. $o-$ nitrophenol

Answer: B

Watch Video Solution

6. Phenol is less acidic than

A. ethanol

B. methanol

C. $o-$ nitrophenol

D. p-cresol.

Answer: C

Watch Video Solution

7. $B(mix) \underset{2}{\overset{conc.HI}{\longleftarrow}} CH_3\Big)_2 C-O-CH_3 \underset{1}{\overset{\text{anhydrous HI}}{\longrightarrow}} A(mix)$

A. A and B are identicl mixture of CH_3I and $(CH_3)_3C-OH$

B. A and B are identical mixture of CH_3OH and $(CH_3)_3C-I$

C. A is mixture of CH_3I and $(CH_3)_3C-OHB$ is a mixture of CH_3OH and $(CH_3)_3C-I$

D. none of these

Answer: C

Watch Video Solution

8. The boiling points to isomertic alcohols follow the order

A. Primary gt secondary gt tertiary

B. tertiary gt secondary gt primary

C. secondary gt teriary gt primary

D. does not follow any other

Answer: A

Watch Video Solution

9. Which of the following is a parimary alcohol?

A. Butan $-2-ol$

B. Butan $-1-ol$

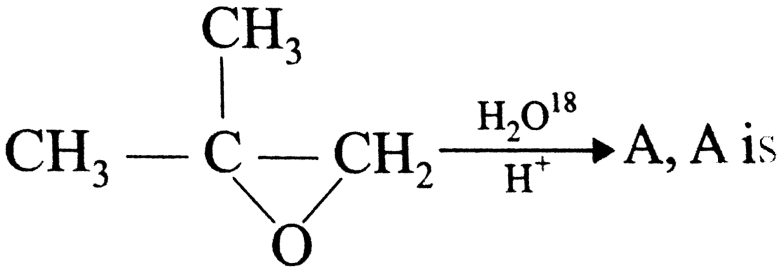
C. Propan $-2-ol$

D. $2-$ Methylhexan $-4-ol$

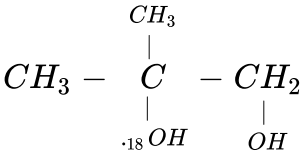
Answer: B

Watch Video Solution

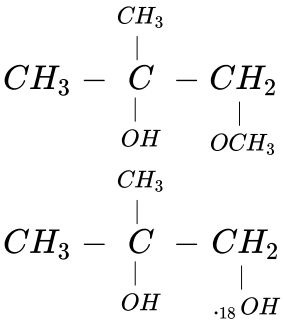
10. Complete the following reaction

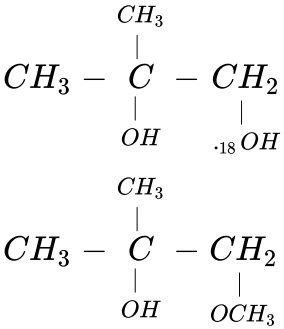


A.



B.





C. Both are correct

D. None is correct

Answer: A

Watch Video Solution

11. The compound that reacts faster with Lucas reagent (conc. $HCl + ZnCl_2$) at room temperature is

A. $1-$ hydroxybutane

B. $2-$ hydroxybutane

C. $2-$ hydroxy$-2-$ Methylpropane

D. $1-$ hydroxy$-2-$ Methylpropane

Answer: C

Watch Video Solution

12. The$-OH$ group of Methyl alcohol cannot be replaced by chlorine by the the action of

A. Chlorine

B. Hydrogen chloride

C. Phosphoric trichloride

D. Phosphours pentachloride

Answer: A

Watch Video Solution

13. The calcohol which easily reacts with conc. HCI is

A. $CH_3 - CHOH - CH_2 - CH_3$

B. $(CH_3)_3 - C - OH$

C. $CH_3 - CH_2 - CH_2 - CH_2 - OH$

D. $(CH_3)_3 - CH - CH_2OH$

Answer: B

Watch Video Solution

14. Because of resonance the oxygen atom of $-OH$ group of phenol

A. Acquires positive charge

B. Acquires negative charge

C. Remains unaffected

D. Liberates

Answer: A

Watch Video Solution

15. The compound obtained by heating salicylic acid with phenol in the presence of phoshorus oxychloride is

A. Salol

B. Aspirin

C. Oil of wintergreen

D. $o-$ chlorobenzoy1 chloride

Answer: A

Watch Video Solution

16. When phenol is allowed to react with Br_2 in (i) CS_2 solution and (ii) in aqueous solution, the resulting compounds are

A. (i) $2, 4, 6 -$ tribromophenol and

(ii) $o -$ and p-bromophenol

B. (i) $m -$ bromomphenol and

(ii) $2, 3, 4 -$ tribromophenol

C. (i) $o -$ and p-bromophenol and

(ii) $2, 4, 6 -$ tribromophenol

D. (i) o-and $m -$ bromophenol and

(ii) $2, 3, 4 -$ tribromophenol

Answer: C

Watch Video Solution

17. When rectified spirit and benzene are distilled togther, the first fraction obtained is

A. A ternary azeptrope

B. A boslute alcohol

C. A binary azeptrope

D. Denatired spirit

Answer: A

Watch Video Solution

18. Alcohols react with Grignard reagent to form

A. Alkanes

B. Alkenes

C. Alkynes

D. All of these

Answer: A

Watch Video Solution

19. The boiling point of methanol is greater than that of Methyl thiol because

A. There is intramolecular hydrogen bonding in methanol and intermolecular hydrogen boiling in Methyl thiol

B. There is intermolecular hydorgen bonding in methanol and no hydrogen bonding in Methyl thiol

C. There is no hydorgen bonding in methanol and intermolecular hydorgen bonding in Methyl thiol

D. There is intramolecular hydrigen bonding in methanol and no intramolecular bonding in Methyl thiol

Answer: B

Watch Video Solution

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

A. CH_3OH

B. CH_3CH_2OH

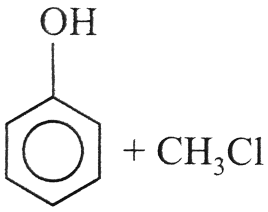
C. $CH_3CH(OH)CH_3$

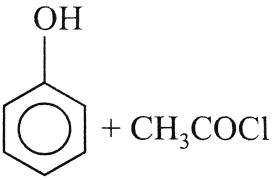
D. $CH_3CH_2CH(OH)CH_3$

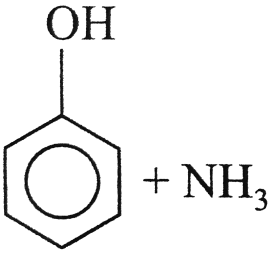
Answer: A

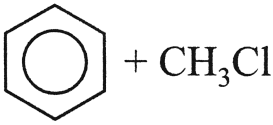
Watch Video Solution

21. In Friedel-Crafts acylation, besides $AICI_3$, the other reactants are

A. 

B. 

C. 

D. 

Answer: B

Watch Video Solution

22. Which of the following reagents will produce salicyldehyde on reaction with phenol?

A. $CHCl_3 / NaOH$

B. $CCl_4 / NaOH$

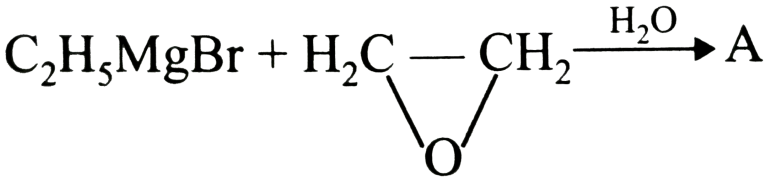
C. $CH_2Cl_2 / NaOH$

D. $CH_3Cl / NaOH$

Answer: A

Watch Video Solution

23. In the following reaction A is



A. $C_2H_5CH_2CHO$

B. $C_2H_5CH_2CH_2OH$

C. $CH_2H_5CH_2OH$

D. C_2H_5CHO

Answer: B

Watch Video Solution

24. Action of water in the presence of sulphuric acid with the following alkenes

(i) $CH_3 - CH = C(CH_3)(CH_3)$ and (ii) $CH_3 - CH = CH_2$

(ii) $CH_3 - CH = H_2$ gives

A. (i) $(\#3A2Z_CHM_XII_C11_E01_{288} \_ O01.png \ \text{width=30 \%} > (ii)$

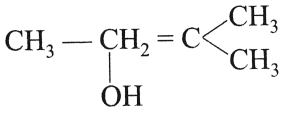
CH_(3)-underset(OH)underset(|)(CH)-CH_(3)`

B. (i) $CH_3 - \underset{OH}{\underset{|}{CH}} = CH - C(CH_3)(CH_3)$

(ii) $CH_3 - CH_2 - CH_2OH$

C. (i) $CH_3 - CH_2 = \underset{OH}{\underset{|}{C}}(CH_3)(CH_3)$

(ii) $CH_3 - \underset{OH}{\underset{|}{CH}} = CH_3$

D. (i) 

(ii) $CH_3 - CH_2 - CH_2OH$

Answer: A

Watch Video Solution

25. In Williamson's syntheis, ethoxyethane is prepared by

A. Passing ethanol over heated alumina

B. Sodium ethoxide with Ethyl bromide

C. Ethyl alcohol with sulphuric acid

D. Ethyliodide and dry silver oxide

Answer: B

Watch Video Solution

26. The compound fromed when Ethyl bromide is heated with dry silver oxide is

A. DiMethyl ether

B. DiEthyl ether

C. Methylalcohol

D. Ethyl alcohol

Answer: B

Watch Video Solution

27. The reagent used for the preparation of higher ether from halogenated ethers is

A. conc.H_2SO_4

B. Sodium alkoxide

C. Dry silver oxide

D. Grignard reagnet

Answer: D

Watch Video Solution

28. Phenol is more reactive than benzene towards electrophilic substitution reaction.

In case of Phenol, the intermediate carbocation is more resonance stabilised.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: A

Watch Video Solution

29. Assertion: Primary and secondary alcohols can be distinguished by Victor-Meyer's test.

Reason: Primary alcohols form nitrolic acid which dissolve in $NaOH$ to form blood red colouration but secondary alcohols from pseudonirates which given blue colouration with $NaOH$.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: A

Watch Video Solution

30. Assertion: Alcohols are easily protonated thena phenols.

Reason: Alcohols undergo intermolecular hydrogen bonding due to the presence of highly electornegative oxygen.

A. If both assertion and reason are true and the reason is the correct explanantion of the assertion.

B. If both assertion and reason are true but reason is not the correct explanantion of the asseriton.

C. If assertion is true but reason is false.

D. If assertion if false but reason is ture.

Answer: B

Watch Video Solution