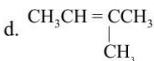
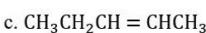


ORGANIC CHEMISTRY

KIPS



Q.14 The reaction $\text{CH}_4 + \text{Cl}_2 \xrightarrow{\text{UV}} \text{CH}_3\text{Cl} + \text{HCl}$ is an example of

- a. Elimination
- b. Addition
- c. Substitution
- d. Rearrangement

Q.15 The number of chain isomers of the alkane C_6H_{14} is

- a. 4
- b. 5
- c. 6
- d. 7

Q.16 Acetic acid and methyl formate are,

- a. Metamers
- b. Tautomers
- c. Functional group isomers
- d. cis-trans isomers

Q.17 Which of the following hydrocarbon shows acidic nature?

- a. 2-Butyne
- b. 1-Butyne
- c. Acetylene
- d. Both b and c

Q.18 The IUPAC name of $\text{CH}_3 - \text{CH}(\text{C}_2\text{H}_5) - \text{CH}_2 - \text{C}(\text{C}_2\text{H}_5)_2 - \text{CH}_3$ is

- a. 2,2-Dimethyl-4-ethyl pentane
- b. 2-Ethyl-2,4-dimethyleptane
- c. 2,2-Dimethyl heptane
- d. 3-Ethyl-3,5-dimethylheptane

Q.19 The catalyst used in Friedel Craft reaction is

- a. ZnCl_2
- b. AlCl_3
- c. CuCl_2
- d. MgCl_2

Q.20 Which of the following is least reactive hydrocarbon

- a. Alkene
- b. Alkane
- c. Benzene
- d. Alkyne

Q.21 Which of the following does not show chain isomerism

- a. Pentane
- b. Propane
- c. Butane
- d. Hexane

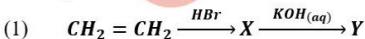
Q.22 $\text{CH} \equiv \text{CH} + \text{H}_2\text{O} \xrightarrow[\text{H}_2\text{SO}_4]{\text{HgSO}_4} \text{Y} \rightleftharpoons$ acetaldehyde . Select the compound "Y" in given reaction

- a. Vinyl alcohol
- b. Ethyl alcohol
- c. Acetone
- d. Formaldehyde

Q.23 Which compound does not show geometric isomerism

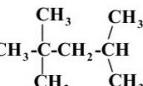
- a. $\text{CH}_3\text{CH} = \text{CBr}_2$
- b. $\text{CH}_3\text{CBr} = \text{CBrCH}_3$
- c. $\text{CH}_3\text{CHBrCH} = \text{CHBr}$
- d. $\text{BrCH} = \text{CHBr}$

Q.24 Identify Y in the sequence



- a. CH_3OH
- b. $\text{HOCH}_2\text{CH}_2\text{OH}$
- c. $\text{CH}_3\text{CH}_2\text{OH}$
- d. C_2H_4

Q.25 What is the IUPAC name for the following compound



- a. 1,3-Pentamethylpropane
- b. 1,1,3,3-Tetramethylbutane
- c. 2,4,4-Trimethylpentane
- d. 2,2,4-Trimethylpentane

- Q.26** When 1-butene reacts with cold dilute KMnO_4 in basic media, the product formed will be
 a. 1,1- Butan-diol b. But-1,2-diol
 c. 1,3- Butan-diol d. But-1,4-diol

Q.27 The oxidative cleavage with hot conc. KMnO_4 takes place for
 a. C – C bond cleavage b. C = C bond cleavage
 c. C – H bond cleavage d. C – O bond cleavage

Q.28 Which is an aromatic compound that contains only carbon and hydrogen atom.
 a. Toluene b. n-hexane
 c. Phenol d. Aniline

Q.29 The total number of sigma bonds between C–H in benzene are
 a. 6 b. 12
 c. 3 d. 8

Q.30 The Markownikoff's rule is applicable only on
 a. 2-Butene b. 2,3 Dimethyl-2-butene
 c. 2-Bromo-3-chloro-2-butene d. 2-Methyl-2-butene

Q.31 The IUPAC name of the following compound is
 $H_3C(CH_3)C = CHCH_2(CH_3)_2CCH_3$
 a. 2, 2, 5-Trimethyl-4-hexene b. 2, 5, 5-Trimethyl-2-pentene
 c. 2, 5, 5-Trimethyl-2-hexene d. 2, 5-Dimethyl-2-heptene

Q.32 The dehalogenation of vic-dihalide occurs when it is treated with 'Zn' dust in an anhydrous solvent like
 a. CH_3COOH or CCl_4 b. CH_3OH or FeBr_3
 c. CH_3COOH or CH_3OH d. Br_2 or KMnO_4

Q.33 The hybridization of any carbon atom in polyethylene is
 a. sp^2 only b. sp^2 or sp^3
 c. sp^3 only d. sp only

Q.34 Which one of the following is formed when HBr reacts with 2-butene
 a. 2-bromobutane b. 1, 1-dibromobutane
 c. 1-bromobutane d. 1, 2-dibromobutane

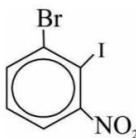
Q.35 The most reactive compound towards nitration is
 a.  b. 
 c.  d. 

Q.36 When 2-butene is heated with alkaline or acidic KMnO_4 , the product will be
 a. Two moles of acetic acid b. Butan-2,3-diol
 c. Two mole of formic acid d. 2-butanol

Q.37 The order of reactivity of halogens for alkanes is
 a. $\text{F}_2 > \text{Cl}_2 > \text{Br}_2 > \text{I}_2$ b. $\text{F}_2 > \text{Br}_2 > \text{Cl}_2 > \text{I}_2$
 c. $\text{F}_2 > \text{I}_2 > \text{Cl}_2 > \text{Br}_2$ d. $\text{I}_2 > \text{Cl}_2 > \text{Br}_2 > \text{F}_2$

- Q.38** Which of the following group of elements and compounds represents all the possible combustion products of methane
- C, CO, CO₂ and H₂O
 - C, CO and H₂O only
 - CO₂, H₂ and H₂O
 - CO, CO₂, H₂ and H₂O
- Q.39** The ease of dehydrohalogenation of alkyl halides is in the order
- 1° > 2° > 3°
 - 2° > 1° > 3°
 - 2° > 3° > 1°
 - 3° > 2° > 1°
- Q.40** The reaction of chlorine with methane is carried out in the presence of light. What is the function of the light?
- To break the C – H bonds in methane
 - To break up the chlorine molecules into ions
 - To heat up the mixture
 - To break up the chlorine molecules into free radicals
- Q.41** Which of the following decolorizes the alkaline/acidic KMnO₄ solution
- C₃H₈
 - C₂H₄
 - C₂H₆
 - C₆H₆
- Q.42** For which of the compounds below are cis-trans isomers possible?
- (1) CH₃CH=CH₂
 - (2) CH₃CH=CHCH₂CH₃
 - (3) CH₃CH=CHCH₃
 - Only 2
 - Both 1 and 2
 - Both 2 and 3
 - All three
- Q.43** Identify A
- $$\text{CH}_3\text{CH}_2\overset{\text{Cl}}{\underset{|}{\text{C}}}\text{CH}_3 \xrightarrow{\text{AlcKOH}} (\text{A})$$
- 1-Butene
 - 1-Butanol
 - 2-Butene
 - 2-Butanol
- Q.44** The condensed structural formula for 2,2-dimethyl butane is
- C₃H₈
 - C₆H₁₄
 - CH₃C(CH₃)₂CH₂CH₃
 - CH₃CH(CH₃)CH(CH₃)CH₃
- Q.45** Which substance is not used as dehydrating agent for dehydration of alcohol to alkene
- P₂O₅
 - H₃PO₄
 - H₂SO₄ (conc.)
 - ZnO
- Q.46** When toluene reacts with Cl₂ in the presence of sunlight, the final product will be
- Benzotrichloride
 - Benzyl chloride
 - Benzal chloride
 - Chlorobenzene
- Q.47** $\text{CH}_3 - \text{C} \equiv \text{C} - \text{CH}_3 + 2[\text{H}] \xrightarrow{\text{Na/Liq.NH}_3 - 33^\circ\text{C}} \text{Z}$
- The “Z” in above reaction is
- Cis – 2 – Butene
 - Cis – 1 – Butene
 - Trans – 2 – Butene
 - Trans – 1 – Butene
- Q.48** Which one of the following is a initiation step in the reaction between CH₄ and Cl₂
- Cl₂ → 2 · Cl
 - CH₃ + Cl₂ → CH₃Cl + · Cl
 - CH₃ + · Cl → CH₃Cl
 - CH₃ + HCl → CH₃Cl + · H

Q.49 The IUPAC name of the following compound is



- a. 2-Bromo-6-nitroiodobenzene
- b. 3-Bromo-2-iodonitrobenzene
- c. 2-Iodo-3-nitrobromobenzene
- d. 6-Bromo-2-nitroiodobenzene

Q.50 Which one is readily sulphonated?

- a. Benzene
- b. Benzoic acid
- c. Benzaldehyde
- d. Chlorobenzene

Q.51 $X + KCN \xrightarrow{H^+/OH^-}$ Butanoic acid.

X in above equation

- a. Propyl alcohol
- b. Butyl chloride
- c. Butyl alcohol
- d. Propyl chloride

Q.52 Phenol does not evolve CO_2 from $NaHCO_3$ like carboxylic acids because

- a. Phenol is stronger acid than carboxylic acid
- b. Phenol is stronger acid than carbonic acid
- c. Phenol is weaker acid than carboxylic acid
- d. Phenol is aromatic in nature

Q.53 An organic compound, "A" reacts with PCl_5 to give C_2H_5Cl , identify "A" among the following

- a. C_2H_5Cl
- b. C_2H_5F
- c. C_2H_5OH
- d. C_2H_5CN

Q.54 An alkyl halide reacts with NH_3 to give

- a. Amide
- b. Amine
- c. Cyanide
- d. Aniline

Q.55 The reaction $C_2H_5Cl + \text{aqueous KOH} \rightarrow C_2H_5OH + KCl$ is

- a. Electrophilic addition
- b. Electrophilic substitution
- c. Nucleophilic addition
- d. Nucleophilic substitution

Q.56 The dehydration of neo-pentyl alcohol gives mainly

- a. $CH_3 - CH_2 - CH = CH_2$
- b. $CH_3 - C = CH - CH_3$
|
 CH_3
- c. CH_3
|
 $CH_3 - C - CH = CH_2$
|
 CH_3
- d. Dehydration cannot take place

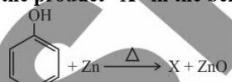
Q.57 Which of the following statement is NOT correct about alcohols

- a. Methanol evaporate quickly
- b. Alcohols with less number of carbon atoms are less soluble
- c. Ethanol is weaker acid than water
- d. Alcohols with less number of carbon atoms are more soluble

Q.58 The most reactive mono-halo derivatives of ethane towards nucleophilic substitution will be

- a. C_2H_5Br
- b. C_2H_5Cl
- c. C_2H_5I
- d. All are equally reactive

- Q.59 Methyl alcohol on oxidation with acidified $K_2Cr_2O_7$ gives**
- a. CH_3COCH_3
 - b. $HCOOH$
 - c. CH_3CHO
 - d. CH_3COOH
- Q.60 46g of Na shall react with methyl alcohol to give**
- a. Half mole of H_2
 - b. One mole of O_2
 - c. One mole of H_2
 - d. Two mole of H_2
- Q.61 Which of the following ketone will not give iodoform test**
- a. Methyl isopropyl ketone
 - b. Dimethyl ketone
 - c. Ethyl isopropyl ketone
 - d. 2-hexanone
- Q.62 Which one of the following is more acidic in nature**
- a. Water
 - b. Ethanol
 - c. Phenol
 - d. Ammonia
- Q.63 Which of the following is correct for stability of phenoxide ion**
- a. Resonating structure of benzene
 - b. Localization of π electrons in phenoxide ion
 - c. Delocalization of π electrons in phenoxide ion
 - d. All are correct statements
- Q.64 How many π electrons are there in planar ring of phenol**
- a. 4
 - b. 10
 - c. 6
 - d. 8
- Q.65 The oxidation of which of the following compound gives ketone**
- a. Butan-2-ol
 - b. 2-methyl butan-2-ol
 - c. Propan-2-ol
 - d. Both a and c
- Q.66 Which of the following when dissolved in water gives a solution with pH less than 7 at 298 K**
- a. CH_3COCH_3
 - b. C_2H_5OH
 - c. C_6H_5OH
 - d. $C_6H_5NH_2$
- Q.67 Alkyl halides can be converted into corresponding alkene in the presence of**
- a. Alcoholic KOH
 - b. Alcoholic KCN
 - c. Aqueous NH_3
 - d. Aqueous KOH
- Q.68 In which of the following reactions ethanol acts as a nucleophile**
- a. Reaction with PCl_5
 - b. Reaction with alkaline aqueous iodine
 - c. Reaction with $K_2Cr_2O_7$
 - d. Reaction with acetic acid in presence of H_2SO_4
- Q.69 Which compound has strongest conjugate base**
- a. Ethanoic acid
 - b. Water
 - c. Phenol
 - d. Alcohol
- Q.70 $X + 3Y \xrightarrow{\text{Heat}}$ picric acid + $3H_2O$, X and Y may be**
- a. Phenol + Liquid bromine
 - b. Phenol + Formaldehyde
 - c. Phenol + Conc. Nitric acid
 - d. Benzene + Conc. Nitric acid
- Q.71 The reaction of phenol with bromine is type of**
- a. Nucleophilic addition
 - b. Electrophilic addition
 - c. Nucleophilic Substitution
 - d. Electrophilic substitution
- Q.72 IUPAC name of lactic acid**
- a. 2, 3-dihydroxy propanoic acid
 - b. 3-hydroxy propanoic acid
 - c. 2, 3-dihydroxy but 1, 4 dioic acid
 - d. 2-hydroxy propanoic acid

- Q.73 Excess of ethyl bromide with NH₃ form**
- a. Primary amine
 - b. Secondary amine
 - c. Tertiary amine
 - d. Quaternary amine
- Q.74 Phenol reacts with dilute HNO₃ to produce**
- a. o-Nitrophenol
 - b. Picric acid
 - c. p-Nitrophenol
 - d. Both "a" and "c"
- Q.75 The correct order of acidic strength is**
- a. RCOOH > C₆H₅OH > H₂O > ROH
 - b. ROH > H₂O > C₆H₅OH > RCOOH
 - c. RCOOH > C₆H₅OH > ROH > H₂O
 - d. RCOOH > ROH > C₆H₅OH > H₂O
- Q.76 S_N2 reaction depends upon**
- a. Steric hindrance
 - b. Nature of leaving group
 - c. Strength of attacking nucleophile
 - d. All of these
- Q.77 Ethyl alcohol is heated with conc. H₂SO₄ at 180°C. The product formed**
- a. CH₃OCH₃
 - b. C₂H₅OCH₃
 - c. C₂H₄
 - d. C₂H₂
- Q.78 2-Bromo – 2-chloro – 1,1,1-trifluoroethane is commonly known as**
- a. TNT
 - b. Teflon
 - c. Freons
 - d. Halothane
- Q.79 The name of the product "X" in the below equation is**
- 
- a. Cyclohexane
 - b. Phenoxide ion
 - c. Cyclohexene
 - d. Benzene
- Q.80 Tertiary butyl chloride reacts with aqueous KOH, the product formed contains _____ functional group**
- a. C = C
 - b. - OH
 - c. - X
 - d. - SH
- Q.81 For the following reaction the correct order of reactivity of HX is**
- $\text{CH}_3\text{CH}_2\text{OH} + \text{HX} \xrightarrow{\text{ZnCl}_2} \text{CH}_3\text{CH}_2\text{X}$
- a. HBr > HI > HCl
 - b. HI > HBr > HCl
 - c. HI > HCl > HBr
 - d. HCl > HBr > HI
- Q.82 For one mole of the following which can produce greater number of moles of ethyl chloride on reacting with excess of ethanol**
- a. PCl₅
 - b. PCl₃
 - c. HCl / ZnCl₂
 - d. SOCl₂
- Q.83 Hydrogen gas is evolved during reaction of Na-metal with all except**
- a. Ethyl Chloride
 - b. Ethyl Alcohol
 - c. Water
 - d. Hydrochloric acid
- Q.84 In second step of E1 reaction the base attacks on**
- a. Carbocation
 - b. β-hydrogen
 - c. β-carbon
 - d. α-hydrogen
- Q.85 Phenoxide ion is formed from phenol by losing**
- a. Electron pair
 - b. Hydrogen
 - c. Hydroxyl group
 - d. Carbon atom
- Q.86 The colour of precipitate of 2, 4, 6-tribromophenol is**
- a. Yellow
 - b. Orange
 - c. Green
 - d. White

c. Isopropyl alcohol

d t-Butyl alcohol

Q.101 The reaction in which aldehydes and ketones react with ammonia derivatives in the presence of acid catalyst followed by elimination of water is called

a. Redox reaction

b. Condensation reaction

c. Oxidation reaction

d. Polymerization reaction

Q.102 Which of the following ketone will not give iodoform test

a. Methyl isopropyl ketone

b. Dimethyl ketone

c. Ethyl isopropyl ketone

d. 2-Hexanone

Q.103 Which of the following will not form when calcium formate is distilled with calcium acetate

a. Acetone

b. Ethanal

c. Propanal

d. Methanal

Q.104 The reaction of formaldehyde with HCN is

a. Nucleophilic substitution

b. Electrophilic substitution

c. Free radical addition

d. Nucleophilic addition

Q.105 In aldehydes and ketones carbon of carbonyl group is

a. sp^3 hybridized

b. sp^2 hybridized

c. sp hybridized

d. unhybridized

Q.106 Which of the following gives positive haloform test and positive Fehling solution test

a. Acetone

b. Propanal

c. Acetaldehyde

d. Formaldehyde

Q.107 Crotonaldehyde is an α, β -unsaturated aldehyde formed from an aldol. The aldehyde which is the starting material in this reaction is

a. Ethanal

b. Propanone

c. Propanal

d. Propanol

Q.108 Which compound gives positive silver mirror test

a. Propanone

b. Propanol

c. Propanal

d. Propanoic acid

Q.109 An organic compound P when treated with $NaBH_4$ forms Q, which is used in denaturing of the spirit. The compound P is

a. Ethanol

b. Methanal

c. Methanol

d. Ethanal

Q.110 Which of the following will react with nitroprusside solution?

a. CH_3CH_2CHO

b. $(CH_3)_2CO$

c. CH_3COOH

d. CH_3-CH_2-OH

Q.111 Cannizzaro's reaction is not given by

a. $HCHO$

b. C_6H_5CHO

c. $(CH_3)_3C-CHO$

d. CH_3CHO

Q.112 Aldehydes are prepared by the oxidation of

a. Primary alcohols

b. Tertiary alcohols

c. Secondary alcohols

d. 2-Propanol

Q.113 $CH_3 - CO - CH_2 - CH_3 + [O] \rightarrow C + D$ in the given reaction, C and D are

a. $CH_3COOH + CH_3COOH$

b. $CH_3COOH + CH_3CH_2CHO$

c. $CH_3COOH + CH_3CH_2COOH$

d. $HCHO + 2CH_3COOH$

Q.114 Which compound forms white crystalline ppt with aldehydes and small methyl ketones

- a. 2,4 DNPH
- b. Ammonical AgNO_3
- c. Sodium nitroprusside
- d. NaHSO_3

Q.115 Alcohols react with aldehydes in presence of dry HCl to give

- a. Esters
- b. Carboxylic acid
- c. Acetals
- d. Glyoxal

Q.116 Which of the following does not give yellow precipitate with $\text{I}_2 + \text{NaOH}$

- a. Acetone
- b. Benzaldehyde
- c. Acetaldehyde
- d. Acetophenone

Q.117 Which of the following does not give brick red precipitate with Fehling's solution

- a. Acetaldehyde
- b. Formalin
- c. D-glucose
- d. Acetone

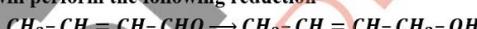
Q.118 Which is most difficult to oxidize

- a. HCHO
- b. CH_3COCH_3
- c. CH_3CHO
- d. $\text{CH}_3\text{CH}_2\text{CHO}$

Q.119 Which of the following gives silver mirror with ammonical AgNO_3

- a. Benzyl alcohol
- b. Benzene
- c. Benzoic acid
- d. Benzaldehyde

Q.120 Which reagent will perform the following reduction



- a. V_2O_5
- b. NaBH_4
- c. H_2/Ni
- d. Both "b" and "c"

Q.121 Which one of the following does not give aldol condensation reaction

- a. Ethanal
- b. Propanal
- c. Propanone
- d. Methanal

Q.122 An aldehyde when strongly heated with Fehling's reagent gives brick red precipitate of

- a. CuO
- b. Cu_2O
- c. CuO_2
- d. $\text{Cu}(\text{OH})_2$

Q.123 Propanone reacts with HCN in basic medium followed by acid hydrolysis yielding

- a. 2-Hydroxy propanoic acid
- b. 2-Hydroxy ethanoic acid
- c. 2-Hydroxy-2-methyl propanoic acid
- d. 2-Hydroxy butanoic acid

Q.124 The reagent (s) used to distinguish between ethanal and formaldehyde

- a. Phenylhydrazine
- b. Alkaline aqueous iodine
- c. NaHSO_3
- d. Tollen's reagent

Q.125 Sodium borohydride reduces the _____ bond

- a. $\text{C}=\text{C}$
- b. $\text{C}\equiv\text{C}$
- c. $\text{C}\equiv\text{N}$
- d. $\text{C}=\text{O}$

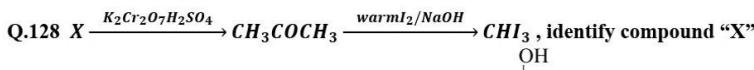
Q.126 Statement NOT true about reduction of acetone

- a. With NaBH_4 it follows nucleophilic addition
- b. With LiAlH_4 it gives propane
- c. It gives 2-propanol with NaBH_4
- d. Can easily be reduced with LiAlH_4

Q.127 Hydrogen cyanide adds to aldehyde and ketones to form cyanohydrin the reaction is carried out by adding slowly a mineral acid to an aqueous solution of sodium cyanide.

The acid generates HCN from sodium cyanide in situ which means

- a. Before reaction
- b. During reaction
- c. After reaction
- d. At any time



- a. $CH_3CH_2CH_2OH$
- b. $CH_3 - CH - CH_3$
- c. $CH_3OCH_2CH_3$
- d. CH_3CH_2OH

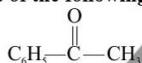
Q.129 Which of the following is easily oxidized to the corresponding carbonyl compound

- a. Propanone
- b. 2-Hydroxypropane
- c. 2-Methyl – 2 – hydroxypropane
- d. t-Butyl alcohol

Q.130 The complex formed in Tollen's reagent is

- a. $[Ag(NH_3)_2]OH$
- b. $[Ag(NH_3)_2]$
- c. $[Ag(OH)_2]NO_3$
- d. $[Ag(NH_3)_2OH]NO_3$

Q.131 The correct name of the following given compound is



- a. Methyl Phenyl Ketone
- b. Benzophenone
- c. Acetophenone
- d. Both a and c

Q.132 Acetone reacts with $NaHSO_3$ to form bisulphite adduct. This is an example of

- a. Electrophilic substitution reaction
- b. Electrophilic addition reaction
- c. Nucleophilic substitution reaction
- d. Nucleophilic addition reaction

Q.133 One of the following is identification test of carbonyl compounds

- a. Lucas test
- b. Friedal – Craft Alkylation
- c. 2,4 – DNPH
- d. Baeyer's reagent test

Q.134 Homologous series of both aldehyde and ketones have the general formula

- a. C_nH_{2n}
- b. $C_nH_{2n}O_2$
- c. $C_nH_{2n+2}O$
- d. $C_nH_{2n}O$

Q.135 The nucleophile produced during reduction of carbonyl compound with sodium borohydride is

- a. BH_4^-
- b. H^-
- c. BH_3^-
- d. BH_2^-

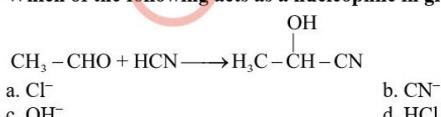
Q.136 Acetaldehyde polymerizes in the presence of dilute H_2SO_4 to give _____.

- a. Metaformaldehyde
- b. Bakelite
- c. Paraldehyde
- d. Crotonaldehyde

Q.137 A student mixed ethyl alcohol with small amount of sodium dichromate and added it to the hot solution of dilute sulphuric acid. A vigorous reaction took place. He distilled the product formed immediately. What was the product

- a. Acetone
- b. Dimethyl ether
- c. acetaldehyde
- d. Acetic acid

Q.138 Which of the following acts as a nucleophile in given reaction?



Q.139 Common names of aldehydes are derived from?

- a. Alkanes
- b. Alcohols
- c. Ethers
- d. Carboxylic acids

Q.140 The other name of α -Hydroxy butyraldehyde is

- a. 2-Hydroxy butanal
- b. 3-Hydroxybutanal
- c. 4-Hydroxy butanal
- d. 2-Hydroxy pentanal

Q.141 When this group “–C = N – R” is attached to carbon the resultant product is called

- a. Hydrazone
- b. Acetal
- c. Oxime
- d. Imine

Q.142 Methyl ketones are usually characterized by

- a. Tollen's tests
- b. Lucas test
- c. Iodoform test
- d. Fehling solution test

Q.143 Which pair of compounds cannot be distinguished by means of Tollen's test

- a. HCHO and CH₃COCH₃
- b. HCHO and CH₃CHO
- c. CH₃CHO and CH₃COCH₃
- d. C₆H₅COCH₃ and C₆H₅CHO

Q.144 Which of the following statements is incorrect about ethanal and propanone

- a. Both can be prepared by oxidation of alcohols
- b. Both gives wine red or orange colour with sodium nitroprusside
- c. Both react with 2, 4-Dinitrophenyl hydrazine reagent
- d. Both give positive iodoform test

Q.145 In an acid catalyzed reaction of carbonyl compounds, the acid increases _____

- a. Nucleophilic character of C of carbonyl group
- b. Acidic character of carbonyl group
- c. Electrophilic character of C of carbonyl group
- d. Both acidic and nucleophilic character

Q.146 Which of the following reagents will react with both aldehydes and ketones

- a. Grignard's reagent
- b. Tollen's reagent
- c. Fehling's reagent
- d. Benedict's reagent

Q.147 In aldehyde the carbonyl group must be bonded to

- a. Two carbon atoms
- b. At least one hydrogen atom
- c. One carbon atom
- d. One hydrogen and one carbon atom

Q.148 During nucleophilic addition reaction of aldehydes and ketones the bond angle around the carbonyl carbon changes

- a. 109.5° – 120°
- b. 120° – 180°
- c. 120° – 109.5°
- d. 109.5° – 180°

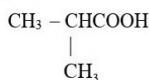
Q.149 Which one of the following compound form oxime when reacted with aldehydes or ketones?

- a. NH₃
- b. CH₃NH₂
- c. NH₂NH₂
- d. NH₂OH

Q.150 A compound “X” gives silver mirror test. It gives primary alcohol on reduction. The compound “X” belongs to class of organic compounds

- a. Alcohol
- b. Aldehyde
- c. Carboxylic acid
- d. Ketone

Q.151 Which of the following name is correct for given compound?



- a. Isobutyric acid
- b. α – Methyl Propionic acid
- c. 2 – Methyl propanoic acid
- d. All of these

Q.152 Identify the correct order of acidic strength

- a. Phenol > Carboxylic acid > Water > Alcohol
- b. Carboxylic acid > Phenol > Water > Alcohol
- c. Carboxylic acid > Water > Phenol > Alcohol
- d. Carboxylic acid > Alcohol > Phenol > Water

Q.153 Which one is aliphatic dicarboxylic acid

- a. Ethanoic acid
- b. Benzoic acid
- c. Oxalic acid
- d. Phthalic acid

Q.154 When ethanoic acid reacts with PCl_5 , the products formed are _____

- a. $\text{CH}_3\text{COCl} + \text{HCl}$
- b. $\text{CH}_3\text{CH}_2\text{Cl} + \text{POCl}_3 + \text{HCl}$
- c. $\text{CH}_3\text{COCl} + \text{H}_3\text{PO}_4 + \text{HCl}$
- d. $\text{CH}_3\text{COCl} + \text{POCl}_3 + \text{HCl}$

Q.155 Reaction of carboxylic acid with alcohol in the presence of H_2SO_4 is _____ reaction

- a. Electrophilic substitution
- b. Nucleophilic substitution
- c. Electrophilic addition
- d. Nucleophilic addition

Q.156 Which of the following is not a fatty acid?

- a. Propanoic acid
- b. Stearic acid
- c. Succinic acid
- d. Palmitic acid

Q.157 Phthalic acid is also called

- a. Benzoic acid
- b. 1, 3-Benzenedicarboxylic acid
- c. 1, 2-Benzenedicarboxylic acid
- d. 1, 4-Benzenedicarboxylic acid

Q.158 When a carboxylic acid is protonated, protonation occurs at

- a. Hydroxyl oxygen atom
- b. Hydroxyl hydrogen atom
- c. Carbonyl Oxygen atom
- d. Carbonyl carbon atom

Q.159 The boiling points of carboxylic acids are _____ than their corresponding alkanes.

- a. Low due to low molecular masses
- b. High due to high molecular masses
- c. High due to hydrogen bonding
- d. Low due to weak intermolecular forces

Q.160 Which one is correct general formula for carboxylic acid

- a. $\text{C}_n\text{H}_{2n}\text{O}$
- b. $\text{C}_n\text{H}_{2n}\text{O}_2$
- c. $\text{C}_n\text{H}_{2n}\text{O}_n$
- d. $\text{C}_n\text{H}_{2n-1}\text{O}_2$

Q.161 Carboxylic acids are dehydrated on heating strongly in the presence of phosphorous pentoxide product will be

- a. Acid amide
- b. Acid anhydride
- c. Alkyl amine
- d. Alkane nitrile

Q.162 The secondary structure of protein is maintained by H-bonding between

- a. N and H
- b. O and C
- c. O and H
- d. C and H

Q.163 Amino acids are the building blocks of

- a. Carbohydrates
- b. Vitamins
- c. Proteins
- d. Fats

Q.164 A protein assumes at least

- a. 25 types of amino acids
- b. 2 polypeptide chains
- c. 3 structural levels
- d. 1 structural level

Q.165 Denaturation of protein is caused by

- a. Changing the temperature
- b. Changing the pH

- c. Intensified light
d. All of these
- Q.166** The molecular weight of protein is
- a. > 1000 amu.
b. > 10000 amu.
c. < 1000 amu.
d. < 10000 amu.
- Q.167** The helical structure of protein is stabilized by
- a. Ether bonds
b. Peptide bonds
c. Amide linkage
d. Hydrogen bonds
- Q.168** The three dimensional twisting and folding of the polypeptide chain results in
- a. Primary structure
b. Secondary structure
c. Tertiary structure
d. Quaternary structure
- Q.169** Amino acid monomers that form chain with peptide linkage by releasing a water molecule occurs in
- a. Addition polymerization
b. Substitution polymerization
c. Condensation polymerization
d. All of them
- Q.170** A peptide bond in the linear sequence of amino acid (primary structure of protein) is formed with the elimination of
- a. NH₃
b. H₂O
c. CH₄
d. CO₂
- Q.171** Acetic acid exists as cyclic dimer in benzene due to with atoms in the ring
- a. Hydrogen bonding, Eight
b. Covalent bond, Three
c. Dipole-Dipole force, Eight
d. Hydrogen bonding, Three
- Q.172** Strongest acid among the following is
- a. FCH₂COOH
b. BrCH₂COOH
c. ClCH₂COOH
d. ICH₂COOH
- Q.173** The reaction of carboxylic acid with sodium metal to form salt with evolution of H₂ gas. It is an example of
- a. Electrophilic substitution
b. Nucleophilic substitution
c. Electrophilic addition
d. Nucleophilic addition
- Q.174** Ethanoic acid reacts with all of these to produce water except
- a. Ethanol
b. Caustic soda
c. Sodium
d. Sodium hydrogen carbonate
- Q.175** One of the following compound reacts with its own oxidation product (an oxidation which involves no loss of carbon) to give sweet odour liquid
- a. Propanal
b. 1-Propanol
c. Propanone
d. Propanoic acid
- Q.176** In the presence of hot alkaline potassium permanganate solution 2-butene will give
- a. Formic acid + Acetic acid
b. Two moles of methanoic acid
c. Two moles ethanoic acid
d. Ethylene glycol
- Q.177** Velaric acid is obtained from a herb velarian, its IUPAC name is
- a. Propionic acid
b. Butyric acid
c. Pentanoic acid
d. Caproic acid
- Q.178** Esters have fruity smell and are used as artificial flavours. Amylacetate gives flavour of
- a. Banana
b. Pineapple
c. Jasmine
d. Orange
- Q.179** The complete oxidation of ethanol produces first ethanal than
- a. Ethanal
b. Ethanoic acid

- c. Propanone
Q.180 The strongest acid is d. Benzoic acid
- a. CH₃COOH b. Cl₂CHCOOH
 c. ClCH₂COOH d. Cl₃CCOOH
- Q.181** Ethanenitrile can be converted into ethanoic acid through intermediate
- a. Ethyl alcohol b. Acetamide
 c. Acetyl chloride d. Methyl cyanide
- Q.182** The weakest oxidizing agent can be used in the reaction
- $$\text{CH}_3\text{CHO} + [\text{O}] \xrightarrow{3/4 \text{ mol}} \text{CH}_3\text{COOH}$$
- | | |
|---|--|
| Ethanal | Ethanoic acid |
| a. K ₂ Cr ₂ O ₇ / H ₂ SO ₄ | b. Na ₂ Cr ₂ O ₇ / H ₂ SO ₄ |
| c. KMnO ₄ / H ₂ SO ₄ | d. AgNO ₃ / NH ₄ OH |
- Q.183** The IUPAC name of given organic compound HOOC – CH₂– COOH
- a. Ethane dioic acid b. Propane dioic acid
 c. Malonic acid d. Both "B" and "C"
- Q.184** 'S' and 'T' react with sodium metal and release H₂. S and T react with each other to produce ethyl ethanoate. S and T are
- | | |
|---|----------------------------------|
| a. CH ₃ COOH | C ₂ H ₅ OH |
| c. HCOOH | C ₂ H ₅ OH |
| b. CH ₃ COOH | CH ₃ OH |
| d. CH ₃ CH ₂ COOH | C ₂ H ₅ OH |
- Q.185** Which compound will react with each of these
- (i) Cold NaOH (ii) CH₃OH with conc. H₂SO₄ (iii) PCl₅
- a. CH₃COCl b. HOCH₂CO₂CH₃
 c. RCO₂H d. CH₃CH₂CO₂CH₃
- Q.186** CH₃COOH + NH₃ \xrightarrow{X} CH₃ – C – NH₂ \xrightarrow{Y} CH₃COO⁻ + NH₃
 The "X" and "Y" are
- a. X = Heat, Y = H₂O / OH⁻
 b. X = Alcohol, Y = H₂O / HCl
 c. X = Heat, Y = H₃O⁺
 d. X = Cold, Y = KMnO₄ / OH⁻
- Q.187** Glacial acetic acid freezes to ice like solid at
- a. 8°C b. 17 K
 c. 25°C d. 17°C
- Q.188** How many grams of calcium metal are used with ethanoic acid to form one mole of H₂ gas?
- a. 80 b. 60
 c. 40 d. 20
- Q.189** In the complete reduction of carboxylic acid in the presence of HI/P the group of carboxylic acid is involved
- a. – OH b. – COOH
 c. – H d. – CH₃
- Q.190** Propanoic acid liberates CO₂ from Na₂CO₃. The carbon of CO₂ comes from
- a. Methyl group b. Carboxyl group
 c. Methylene group d. Carbonate ion

- Q.191** An aqueous solution of an organic compound reacts with sodium carbonate to produce carbon dioxide gas. Which one of the following would be the organic compound?
- a. $\text{CH}_2=\text{CH}-\text{CH}_3$
 - b. CH_3CHO
 - c. $\text{CH}_3\text{COOC}_2\text{H}_5$
 - d. $\text{CH}_3-\text{CH}_2\text{COOH}$
- Q.192** Which reagent is used to reduce a butanoic acid to 1-butanol
- a. H_2/Ni
 - b. $\text{KMnO}_4/\text{H}_2\text{SO}_4$
 - c. $\text{AgNO}_3/\text{NH}_4\text{OH}$
 - d. LiAlH_4
- Q.193** Which enzyme bring about exchange in functional group between two compounds
- a. Phospho-transferase
 - b. Phospho-glyceromutase
 - c. L-asparaginase
 - d. LDH-1
- Q.194** Gelatin is obtained by heating
- a. Bones
 - b. Skin
 - c. Tendons
 - d. All of these
- Q.195** Which enzyme helps to diagnose rickets and obstructive jaundice
- a. Thrombin
 - b. L – asparaginase
 - c. LDH – 1
 - d. Alkaline phosphate
- Q.196** Many enzymes contain a protein part and non protein part. This protein part is
- a. Apoenzyme
 - b. Holoenzyme
 - c. Co-factor
 - d. Co-enzyme
- Q.197** Which of the following enzyme has Fe^{+2} ions as co-factor
- a. Chrome oxidase
 - b. Phosphatase
 - c. Carbonic anhydrase
 - d. Glucose -6-phosphatase
- Q.198** Which of the following elements is not present in all proteins
- a. Carbon
 - b. Hydrogen
 - c. Sulphur
 - d. Nitrogen
- Q.199** Enzymes that catalyze the transfer of groups within molecule are called
- a. Isomerases
 - b. Lyases
 - c. Transferases
 - d. Ligases
- Q.200** Malic acid has formula $\text{HOOC(OH)CH}_2\text{COOH}$. Three moles of which will react with one mole of the malic acid
- a. Sodium bicarbonate
 - b. Sodium metal
 - c. Potassium hydroxide
 - d. Ethanol in conc. H_2SO_4
- Q.201** Which of the following is not carbocyclic compound?
- a. Cyclopropane
 - b. Anthracene
 - c. Naphthalene
 - d. Furans
- Q.202** Cycloalkanes are represented by general formula
- a. $\text{C}_n\text{H}_{2n+2}$
 - b. $\text{C}_n\text{H}_{2n-2}$
 - c. C_nH_{2n}
 - d. C_nH_n
- Q.203** Isobutylene is categorized in the class
- a. Aliphatic compounds
 - b. Heterocyclic compounds
 - c. Aromatic compounds
 - d. Unsaturated heterocyclic compounds
- Q.204** Neo-pentane contains how many secondary hydrogen
- a. 1
 - b. 2
 - c. 3
 - d. Zero
- Q.205** The organic compounds in which the carbon atoms are connected in series from one to the other are known as _____ compounds
- a. Branched chain
 - b. Straight chain
 - c. Alicyclic
 - d. Homocyclic
- Q.206** The given three hydrocarbons are



- a. Alicyclic hydrocarbons
c. Aromatic hydrocarbons



Naphthalene



- b. Acyclic Hydrocarbons
d. Heterocyclic hydrocarbons

Q.207 Correct name of the given structure is



- a. Cyclopentane
c. Cyclohexene

- b. Cyclobutane
d. Cyclopentene

Q.208 The compounds in which the ring consist of atoms of more than one kind are _____ compound

- a. Homocyclic
c. Acyclic

- b. Heterocyclic
d. Alicyclic

Q.209 How many number of primary and secondary carbons in n-pentane

- a. 3, 2
c. 2, 3

- b. 5, 0
d. 0, 5

Q.210 Which of the following is 1st synthetic organic compound

- a. NH_4CNO
c. $(\text{NH}_2)_2\text{CO}$

- b. $\text{NH}_2\text{COONH}_4$
d. NH_2NH_2

Q.211 Which of the following is aromatic hydrocarbon

- a. Pyridine
c. Phenol

- b. Toluene
d. All of these

Q.212 Rate of reactions of organic compounds are

- a. Fast
c. Moderate

- b. Very fast
d. Slow

Q.213 Positional isomerism is not shown by

- a. Aldehydes
c. Alcohols

- b. Alkyl halides
d. Alkenes

Q.214 IUPAC name of the following structure is $\text{CH}_3\text{CH}(\text{CH}_3)\text{CH}_2\text{CHO}$

- a. 2-Methylbutanal
c. 3-Methylbutanal

- b. 2-Methylpental
d. Iso-Butanal

Q.215 Conversion of vinyl alcohol into acetaldehyde is

- a. Cis trans isomerism
c. Tautomerism

- b. Positional isomerism
d. Chain isomerism

Q.216 IUPAC name of Lactic acid is

- a. 3-Hydroxypentanoic acid
c. Propanoic acid

- b. 2-Hydroxypropanoic acid
d. Butanoic acid

Q.217 Cis trans isomerism is not shown by

- a. 2-butene
c. 1-butene

- b. 2-pentene
d. 2-chloro-2-butene

Q.218 Restricted rotation around double bond is due to

- a. Formation of sigma bond between sp^2 -s orbital
b. Formation of pi bond between $\text{p}_y - \text{p}_y$ orbitals
c. Formation of pi bond between $\text{p}_z - \text{p}_z$ orbitals
d. Presence of bulky groups on doubly bonded carbons

Q.219 Salicylic acid is the common name of the following structure $\text{C}_6\text{H}_4(\text{OH})\text{COOH}$.

IUPAC name is

- a. Hydroxybenzene
c. Benzoic acid

- b. Hydroxybenzoic acid
d. Hydroxycarboxylic acid

Q.220 Which one of the following shows geometrical isomerism?

- a. 1-Butene
c. 2-Methyl-2-butene

- b. 2-Butene
d. All of these

Q.221 The type of structural isomerism which arises due to the difference in the nature of carbon chain or carbon skeleton is

- a. Chain isomerism
b. Cis-Trans isomerism

c. Position isomerism

d. Optical isomerism

Q.222 Name the compound, which shows geometric isomerism:

- a. 1-bromo-2-chloropropene
c. 2-pentene

- b. 2,3-dimethyl-2-butene
d. Both A and B

Q.223 The type of isomerism exhibited by maleic acid and fumaric acid is

- a. Functional group isomerism
c. Positional isomerism

- b. Cis-trans isomerism
d. Chain isomerism

Q.224 IUPAC name of $\text{CH}_3\text{C}(\text{CH}_3)_2\text{CH}(\text{CH}_3)\text{CH}_3$

- a. 2,2,3-trimethyl butane
c. 2,3,3- trimethyl butane

- b. 2,2,4- trimethyl pentane
d. 2,2-dimethyl pentane

Q.225 The IUPAC name of the following compound is:



- a. 5-Methyl-1-penten-2-yne
c. 3-Methyl-4-penten-1-yne

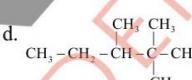
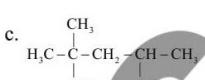
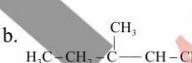
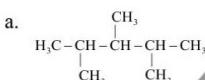
- b. 3-Methyl-1-penten-4-yne
d. 3-Methyl-4-hepten-1-yne

Q.226 An organic compound which contains $-\text{C} \equiv \text{N}$ as a functional group is known as

- a. Amine
c. Imine

- b. Nitrile
d. Amide

Q.227 The structural formula of 2,3,4 trimethylpentane is



Q.228 The IUPAC name of the given compound is



- a. 1-Chloro-2-methylpropane
c. 1-Chloro-2-methylbutane

- b. Isobutyl chloride
d. 2-Methyl-3-chloropropane

Q.229 Skeletal formula of an organic compound is given below



It is a hydrocarbon. IUPAC name of the compound is:

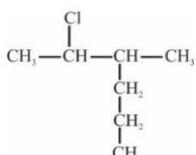
- b. 3-hexene
d. 2,3 dimethyl 1-hexene

Q.230 Which one of the following is Propanal?

- a. $\text{CH}_3\text{-O-CH}_2\text{-CH}_3$
c. $\text{CH}_3\text{-CO-CH}_3$

- b. $\text{CH}_3\text{-CH}_2\text{COOH}$
d. $\text{CH}_3\text{-CH}_2\text{-CHO}$

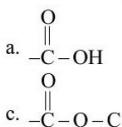
Q.231 Which one of the followings is the best name according to IUPAC system for the formula given below?



- a. 4-methyl-6-chloro heptane
c. 2-chloro-3-methyl hexane

- b. 2-chloro-4-n propyl hexane
d. 2-chloro-4-n propyl pentane

Q.232 Which one is a functional group of carboxylic acid



d. None of these

Q.233 The functional group for thiols is

- a. $-\text{OH}$
c. $-\text{SH}$

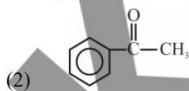
- b. $-\text{NH}_2$
d. $\text{C}=\text{O}$

Q.234 The organic compound which contains $\text{C}=\text{NH}$ as a function group is called

- a. Amine
c. Amide

- b. Imine
d. Nitrile

Q.235 Select the correct name of given compound



- a. Benzophenone
c. Acetophenone

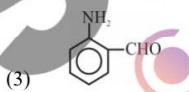
- b. Benzylmethyl ketone
d. Ethylphenyl ketone

Q.236 How many number of carbon and hydrogens respectively in neopentane

- a. 12, 5
c. 10, 4

- b. 4, 10
d. 5, 12

Q.237 IUPAC name of the given compound is



- a. 2-Aminobenzene
c. 2-Aminobenzaldehyde

- b. 6-Aminobenzaldehyde
d. 3-Aminobenzaldehyde

Q.238 Which one of the following is ketone?

- a. $\text{CH}_3\text{-O-CH}_2\text{-CH}_3$
c. $\text{CH}_3\text{-CO-CH}_2\text{-CH}_3$

- b. $\text{CH}_3\text{-CO-COOH}$
d. $\text{CH}_3\text{-CH}_2\text{-CHO}$

Q.239 Ethanol ($\text{CH}_3\text{CH}_2\text{OH}$) and dimethyl ether (CH_3OCH_3) are best considered:

- a. Structural Isomers
c. Position Isomers

- b. Functional Group isomers
d. Cis-trans isomers

Q.240 The compounds $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$ and $\text{CH}_3\text{OCH}_2\text{CH}_2\text{CH}_3$ are

- a. Chain isomers
c. Metamers

- b. Position isomers
d. Tautomers

Q.241 Which of the following statements is false about tautomers?

- a. Tautomer's are structural isomers
b. Tautomer's are structural isomers which exist in dynamic equilibrium
c. Tautomer's involves movement of atoms
d. Tautomer's have independent existence

Q.242 How many isomers are possible for the compound with molecular formula C_4H_{10} ?

- a. 2
c. 6

- b. 4
d. 8

Q.243 How many structural isomers are possible for $\text{C}_4\text{H}_9\text{Br}$?

- a. 2
c. 4

- b. 3
d. 5

Q.244 Which compound is not an isomer of the other three?

- a. n-Pentane
- b. 2,2-Dimethylpropane
- c. 2-Methylbutane
- d. 2,3-Dimethylbutane

Q.245 Alkenes show geometrical isomerism due to

- a. Asymmetry
- b. Rotation around a single bond
- c. Resonance
- d. Restricted rotation around a double bond

Q.246 Which of the following compounds exhibit geometrical isomerism?

- a. 1-Pentene
- b. 2-Methyl-2-pentene
- c. 2-Pentene
- d. 2-Methyl-2-butene

Q.247 Which of the following compounds may exist as cis-trans isomers?

- a. 1-Butene
- b. 2-Butene
- c. Cyclopropane
- d. Acetone

Q.248 Which of the following is a correct name of Iso-octane according to the IUPAC rules?

- a. 2-Methylhexane
- b. 2-Ethyl-2-methylpentane
- c. 3,4-Dimethylpentane
- d. 2,2,4-Trimethylpentane

Q.249 Which of the following is a correct name of Neo-Pentane according to the IUPAC rules?

- a. 2-Methylbutane
- b. 2-Methylpentane

Q.251 For termination reaction in halogenation of alkanes which is/are possible reaction/s.

- a. $\text{CH}_3 + \text{CH}_3$
- b. $\text{CH}_3 + \text{Cl}^-$
- c. $\text{CH}_3\text{Cl} + \text{Cl}^-$
- d. Both 'a' and 'c'

Q.252 The chlorination of alkane involves the mechanism

- a. β - elimination
- b. Nucleophilic substitutions
- c. Electrophilic substitution
- d. Free radical

Q.253 Which alcohol can easily be dehydrated to give alkene?

- a. Ethanol
- b. Isopropyl alcohol
- c. t-Butyl alcohol
- d. n-Propyl alcohol

Q.254 Vicinal dihalide on treatment with a strong base eliminates two molecules of hydrogen halides from two adjacent carbons to give an _____

- a. Alkane
- b. Alkene
- c. Arene
- d. Alkyne

Q.255 A trans alkene can be obtained by treating an alkyne with _____

- a. $\text{Pd}(\text{BaSO}_4)/\text{Quinoline}$
- b. $\text{Zn-Hg}/\text{HCl}$
- c. $\text{Na}/\text{Liquid NH}_3, -33^\circ\text{C}$
- d. $\text{N}_2\text{H}_4/\text{KOH}, 200^\circ\text{C}$

Q.256 $2\text{-Bromobutane} + \text{KOH} \xrightarrow{\text{Alcohol}} \text{X} + \text{KBr} + \text{H}_2\text{O}$. What will be the major product 'X' in given reaction

- a. 1-Butene
- b. 2-Butanol
- c. 2-Butene
- d. Both 'a' and 'b'

Q.257 Alkene + HX → ?

In the above reaction which is the possible product

- a. Alkyl halide
- b. Alcohol
- c. Dihalide
- d. Alkane

Q.258 Amongst the following the compound that can be most readily sulphonated is

- a. Toluene
- b. Phenol
- c. Aniline
- d. Benzene

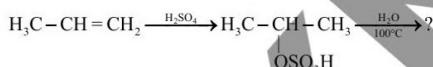
Q.259 The order of reactivity of halogen acids with Alkenes is:

- a. HI > HCl > HBr
- b. HI > HBr > HCl
- c. HCl > HBr < HI
- d. HCl > HI > HBr

Q.260 Which of the following reactions proceed via cyclic intermediate formation?

- a. Hydration of alkenes
- b. Halogenation of alkenes
- c. Hydrohalogenation of alkenes
- d. Halogenation of alkanes

Q.261



What is final product?

- a. Primary alcohol
- b. Tertiary alcohol
- c. Secondary alcohol
- d. Secondary propyl hydrogen sulphonates

Q.262 Alkenes cannot undergo which of the following reactions

- a. Electrophilic addition
- b. Nucleophilic addition
- c. Polymerization
- d. Oxidation

Q.263 Catalyst employed in polyethene formation is

- a. TiCl_4
- b. $\text{TiCl}_4 + (\text{C}_2\text{H}_5)_3\text{Al}$
- c. $\text{TiCl}_3 + (\text{C}_2\text{H}_5)_3\text{Al}$
- d. $\text{TiCl}_4 + \text{AlCl}_3$

Q.264 The products of oxidation of 2- butene with cold and hot KMnO_4 are

- a. Diol, diol
- b. Diol, ketone
- c. Diol, carboxylic acids
- d. All are possible

Q.265 Benzene is less reactive than

- a. Nitrobenzene
- b. Alkene
- c. Alkane
- d. Benzaldehyde

Q.266 Ozonides are unstable compounds and are reduced directly by treatment with Zn and H_2O , the reduction product

- a. Aldehyde
- b. Alcohol
- c. Ketone
- d. May be aldehyde or ketone

Q.267 2, 2-Dichloroethylsulphide is also known as

- a. Marsh gas
- b. Water gas
- c. Mustard gas
- d. Natural gas

Q.268 Markownikov's rule is not followed in reaction between

- a. Propene and Br_2
- b. Propene and H_2SO_4
- c. Propene and HCl
- d. Propene and HCN

Q.269 1,1, 2,2-tetrabromoethane + Zn → X + ZnBr₂



What are "X" and "Y" in above reactions

- a. X = Ethene, Y = Ethyne
- b. X = 1,2-Dibromoethane, Y = Ethyne
- c. X = Ethyne, Y = 1,2-Dibromoethene
- d. X = 1,2-Dibromoethene, Y = Ethyne

Q.270 Acetylene reacts with hydrogen gas in the presence of Ni. Initially an alkene is formed which then take up another molecule of hydrogen to form _____

- a. Ethanol
- b. Ethane
- c. Vinyl alcohol
- d. Acetaldehyde

Q.271 Delocalized electron cloud in benzene is due to

- a. s electrons
- b. sp^2 electrons
- c. s and p electrons
- d. p_z electrons

Q.272 C–C bond length in benzene is

- a. 1.21\AA
- b. 1.34\AA
- c. 1.39\AA
- d. 1.54\AA

Q.273 Which of the following species are 3,5(meta) directing groups when second group is introduced into the benzene ring

- I = $-\text{NH}_2$ II = $-\text{CHO}$ III = $-\text{COOH}$ IV = $-\text{CH}_3$
- a. II, III and IV
 - b. I and IV
 - c. II and III
 - d. I, II and IV

Q.274 Which statement is incorrect about benzene

- a. Benzene is resonance stabilized
- b. All carbons on benzene ring are identical
- c. A weak electrophile can attack on benzene ring
- d. It cannot decolorize KMnO_4 solution

Q.275 $\text{HC} \equiv \text{CH} + \text{H}_2\text{O} \xrightarrow{\text{HgSO}_4/\text{H}_2\text{SO}_4} \text{X} \rightleftharpoons \text{Y}$, What are "X" and "Y" in given reaction

- a. X = Vinyl alcohol, Y = Ethyl alcohol
- b. X = Vinyl alcohol, Y = Acetone
- c. X = Vinyl Alcohol, Y = Acetaldehyde
- d. X = Acetaldehyde, Y = Vinyl alcohol

Q.276 For the formation of acetophenone from benzene which reagents are used

- a. $\text{AlCl}_3 + \text{CH}_3\text{Cl}$
- b. $\text{AlCl}_3 + \text{CHCl}_3$
- c. $\text{AlCl}_3 + \text{CH}_3\text{CH}_2\text{COCl}$
- d. $\text{AlCl}_3 + \text{CH}_3\text{COCl}$

Q.277 Active nitrating agent in formation of nitrobenzene is

- a. NO
- b. HNO_3
- c. HNO_2
- d. NO_2^+

Q.278 Benzal chloride can be formed by reaction of chlorine with _____ in presence of sunlight

- a. Benzene
- b. O nitrobenzene
- c. Toluene
- d. Benzoic acid

Q.279 Which product is formed in the given reaction



Q.280 Which of the following carbon atom of a terminal alkyne pulls the electrons more strongly making the attached hydrogen atom slightly acidic?

- a. sp^3 -hybridized
- b. sp^2 -hybridized
- c. sp -hybridized
- d. dsp^2 -hybridized

Q.281 Under ordinary conditions alkanes are inert towards:

- a. Acids
- b. Alkalies
- c. Oxidizing agents
- d. All of these

Q.282 Combustion of alkanes in limited supply of air produces

- a. CO_2 and H_2O
- b. H_2O and CO
- c. CO, CO_2 and H_2O
- d. CO, C and H_2O

Q.283 Catalytic oxidation of alkane in the presence of Cu, 400°C/200 atm, yield the product

- a. Alcohol
- b. Ketone
- c. Aldehyde
- d. Carboxylic acid

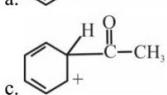
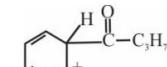
Q.284 Which will react with methane at slowest rate

- a. Fluorine
- b. Bromine
- c. Iodine
- d. Chlorine

Q.285 The reaction of benzene with bromine in the presence of FeBr₃ follows the mechanism of _____ reaction

- a. Electrophilic addition
- b. Electrophilic substitution
- c. Nucleophilic substitution
- d. Nucleophilic addition

Q.286 Intermediate product formed when propanoyl chloride reacts with benzene is



Q.287 Which one of the following acts as a electrophile in the electrophilic substitution of benzene with chlorine

- a. Cl⁺
- b. FeCl₄⁻
- c. Fe⁺³
- d. Cl⁻

Q.288 Toluene +3[O] $\xrightarrow{?}$ Benzoicacid + H₂O, Which of the following reagents are used for given reaction

- a. LiAlH₄, H₂SO₄
- b. NaOH, I₂
- c. KMnO₄, H₂SO₄
- d. HNO₃, H₂SO₄

Q.289 Benzene is reduced to which compound at high temperature with hydrogen in the presence of Ni as a catalyst

- a. Phenol
- b. Cyclopentane
- c. Toluene
- d. Cyclohexane

Q.290 Which solvent is used for hydrogenation of benzene in the presence of Pt as a catalyst

- a. Water
- b. Ether
- c. Acetic acid
- d. Ethanol

Q.291 Nitration of nitrobenzene will yield

- a. 1,2 dinitrobenzene
- b. 1,3 dinitrobenzene
- c. 1,4 trinitrobenzene
- d. All of these

Q.292 Acylation of which one is easier

- a. Benzene
- b. Nitrobenzene
- c. Benzoic acid
- d. Chlorobenzene

Q.293 Which of the followings is ortho para directing group?

- a. -CCl₃
- b. -NO₂
- c. -NH₂
- d. -CN

Q.294 When toluene is treated with HNO₃ + H₂SO₄ at 100°C, the product will be

- a. Picric acid
- b. 1,3-Dinitro benzene
- c. 2,4,6-Trinitro toluene
- d. Both A and B

Q.295 When hydrogen atom is removed from toluene, group left is called?

- a. Alkyl Group
- b. Phenyl Group
- c. Benzyl Group
- d. Methyl Group

Q.296 Addition of unsymmetrical reagent to an unsymmetrical alkene is governed by

- a. Cannizzaro's reaction
- b. Kolbe's reaction
- c. Aldol reaction
- d. Markownikov's rule

Q.297 Alkene is mixed with oxygen or air and passed over Ag_2O catalyst at high temperature and pressure to form

- a. Alcohol
- b. Aldehyde
- c. Epoxide
- d. Ozonide

Q.298 Benzene cannot undergo

- a. Substitution reaction
- b. Addition reaction
- c. Oxidation reaction
- d. Elimination reaction

Q.299 The alkene on treatment with halogen in an inert solvent like Carbon tetrachloride at room temperature gives _____

- a. Alkyl halide
- b. Geminal dihalide
- c. Vicinal dihalide
- d. Vinyl halide

Q.300 Ethyl benzene + 6[O] $\xrightarrow{\text{K}_2\text{Cr}_2\text{O}_7\text{H}_2\text{SO}_4}$ X + Y + Z, What are X, Y and Z in given reaction

- a. X = Picric acid, Y = Water, Z = Carbon dioxide
- b. X = Benzoic acid, Y = Hydrogen, Z = Carbon dioxide
- c. X = Benzoic acid, Y = Water, Z = Carbon dioxide
- d. X = Phthalic acid, Y = Water, Z = Carbon dioxide

Q.301 Double bond is formed when alkyl halide undergo

- a. Addition reactions
- b. Elimination reactions
- c. Substitution reactions
- d. Re-arrangement reactions

Q.302 The more stable leaving group is actually a _____

- a. Good leaving group
- b. poor leaving group
- c. Good electrophile
- d. Poor electrophile

Q.303 Bimolecular elimination reactions are favoured in the presence of

- a. Strong base
- b. Weak base
- c. Strong nucleophile
- d. Weak nucleophile

Q.304 Alkyl halides react with excess of ammonia to give

- a. 1°- amine
- b. 2°- amine
- c. 3°- amine
- d. All of these

Q.305 The common name of 2-Methyl-2-Chloropropane is

- a. Isobutyl chloride
- b. Secondary butyl chloride
- c. Tertiary butyl chloride
- d. n-butyl chloride

Q.306 In phenols hydroxyl group is attached to an / a _____ group

- a. Alkyl
- b. Vinyl
- c. Benzyl
- d. Aryl

Q.307 The compound which are not found naturally

- a. Alkenes
- b. Carbohydrates
- c. Fats
- d. Alkyl halides

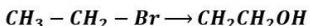
Q.308 Iodide ion is good nucleophile because of

- a. High polarizability
- b. Low polarizability
- c. High electronegativity
- d. Small size

Q.309 Which of the following alkyl halide is more reactive

- a. n-Propyl iodide
- b. n-Propyl bromide
- c. n-Propyl chloride
- d. n-Propyl fluoride

Q.310 The alkaline hydrolysis of bromoethane shown below gives alcohol as the product



The reagent and the condition used in this reaction may be

- a. H₂O at room temperature
- b. KOH is alcohol
- c. Ethanol, heat
- d. Dilute KOH_(aq), warm

Q.311 Consider the reaction given below:



which statement is true?

- a. Reagent for I is KOH in alcohol
- b. Reagent for II is KOH in aqueous medium
- c. Reaction II is elimination
- d. Reaction I is debromination

Q.312 Which of the following is alkyl halide?

- a. CH₃CH₂Cl
- b. ClCH₂CH₂Cl
- c. CH₃CHCl₂
- d. All of these

Q.313 Dehydrohalogenation is possible in

- a. (C₆H₅)₃CCl
- b. CH₃Br
- c. (CH₃)₃CCl
- d. CHCl₃

Q.314 Which of the following alkyl halide easily undergoes S_N1 reaction

- a. Methyl chloride
- b. Isobutyl chloride
- c. Ethyl chloride
- d. Ter-butyl chloride

Q.315 In S_N1 reactions, the 1st step is the formation of

- a. Free radical
- b. Carbocation
- c. Carbanion
- d. Complex

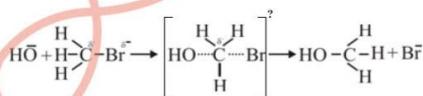
Q.316 If nucleophile attacks on α -carbon of alkyl halide molecule then which mechanism will be followed

- a. S_N1
- b. S_N2
- c. E1
- d. E2

Q.317 S_N1 reaction takes place with

- a. 100% retention of configuration
- b. 100% inversion of configuration
- c. 50% retention and 50% inversion configuration
- d. 25% retention and 75% inversion configuration

Q.318



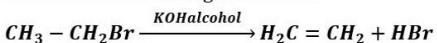
What is charge on the transition state?

- a. +2
- b. +1
- c. -1
- d. -2

Q.319 During the S_N1 reaction, the fast reaction involves

- a. Breakage of covalent bond
- b. Transition state
- c. Formation of carbocation
- d. Attack of nucleophile

Q.320 Consider the reaction given below:



Mechanism followed by the reaction is:

- a. E2
- b. S_N1
- c. E1
- d. S_N2

Q.321 Alcohols can be classified into primary, secondary and tertiary alcohol, 3-pentanol is

- a. 3° alcohol
 - b. 1° alcohol
 - c. 2° alcohol
 - d. Both a and c

Q.322 Alcohols behave as weak acids. The acidic nature of alcohols is in the order

- a. $1^\circ > 2^\circ > 3^\circ$ b. $2^\circ > 3^\circ > 1^\circ$
c. $3^\circ > 2^\circ > 1^\circ$ d. $3^\circ > 1^\circ > 2^\circ$

Q.323 Hydrogen bonding is strongest in

- a. $\text{C}_4\text{H}_9\text{OH}$ b. $\text{C}_2\text{H}_5\text{OH}$
 c. $\text{C}_3\text{H}_7\text{OH}$ d. CH_3OH

Q.324 An alcohol is converted into an aldehyde with same number of carbon atoms in the presence of K_2CrO_4/H_2SO_4 , the alcohol is

- a. $(CH_3)_3COH$ b. $CH_3CH_2CH_2OH$
 c. $(CH_3)_2CHOH$ d. All of these

O.325 Primary, secondary and tertiary alcohols can be identified and distinguished by

O.326 Absolute alcohol can be obtained from rectified spirit by dry distillation with

- a. Conc. H_2SO_4 b. CaO
 c. P_2O_5 d. $CaCl_2$

Q.327 Which of the following reactions is used for the production of alcohols on industrial scale?

- a. Hydrohalogenation of alkenes
 - b. Hydration of alkenes
 - c. Hydroxylation of alkenes
 - d. Hydrogenation of alkenes

Q.328 Which of the following is most soluble in water?

- a. $\text{C}_2\text{H}_5\text{OH}$
c. $\text{C}_3\text{H}_7\text{OH}$

Q.329 What is "B" in given sequence of reactions: $\text{CH}_3\text{OH} \xrightarrow{\text{HCl/ZnCl}_2} \text{A} \xrightarrow{\text{Aq.KOH}} \text{B}$

- a. CH_3Cl
 b. CH_3OH
 c. $\text{CH}_2 = \text{CH}_2$
 d. CH_3OCH_3

Q.330 Alcohol does not produce alkyl halide on reaction with

- a. Cl_2
 b. SOCl_2
 c. $\text{HCl} / \text{ZnCl}_2$
 d. PCl_5

Q.331 Compound "A" reacts with PCls to give "B" which on treatment with KCN followed by hydrolysis gave propanoic acid as the product. What is "A"?

- a. Propyl alcohol
 - b. Ethyl chloride
 - c. Propane
 - d. Ethyl alcohol

Q.332 When excess of $\text{C}_2\text{H}_5\text{OH}$ is heated at 140°C with conc. H_2SO_4 the compound obtained is

- a. Diethyl ether
 - b. Dimethyl ether
 - c. Ethyl hydrogen sulphate
 - d. Ethylene

Q.333 Which of the following gives positive Iodoform test

Q.334 In alcohols, if reactions involve breaking of C–O bond, the order of reactivity is

- a. $1^\circ > 2^\circ > 3^\circ$ b. $2^\circ > 3^\circ > 1^\circ$
c. $3^\circ > 2^\circ > 1^\circ$ d. $3^\circ > 1^\circ > 2^\circ$

Q.335 The rate of esterification of alcohols is more for

- a. CH_3OH b. $(\text{CH}_3)_2\text{CHOH}$
 c. $\text{C}_2\text{H}_5\text{OH}$ d. $(\text{CH}_3)_3\text{COH}$

Q.336 Oxidation of 2-Butanol gives

Q.337 The reaction of ethanol with Na metal is example of _____ reaction.

- a. Nucleophilic substitution
 - b. Electrophilic substitution
 - c. Nucleophilic addition
 - d. Electrophilic addition

Q.338 How will you distinguish between methanol and ethanol?

Q.339 At 25°C 2-Hydroxybenzene-sulphonic acid is formed by the reaction of

- a. $\text{HNO}_3 + \text{H}_2\text{SO}_4$ with benzene
c. $\text{HNO}_3 + \text{H}_2\text{SO}_4$ with phenol
b. NaOH with Benzene sulphonic acid
d. H_2SO_4 with phenol

O.340 Which can be used to distinguish between alcohol and phenol?

- a. Sodium nitro prusside test
 - b. Reaction with sodium
 - c. Benedict solution
 - d. Bromine water

Q.341 Phenol on hydrogenation in presence of nickel catalyst at high temperature gives

- a. Benzene b. Cyclohexanol
c. Cyclohexane d. n-Hexanol

Q.342 Some of the antiseptic soaps are called carbolic soap. This name is due to presence of

- a. Phenol
 - b. Carbonic acid
 - c. Fatty acid
 - d. Alkali

Q.343 The reaction of phenol with conc. HNO_3 gives

- a. Picric acid b. Adipic acid
c. Benzoic acid d. Salicylic acid

Q.344 Phenol on reaction with bromine water gives

- a. o-Bromophenol b. p-Bromophenol
c. m-Bromophenol d. 2, 4, 6-Tribromophenol

Select the compound which is least acidic.

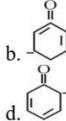
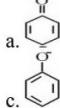
Q.543 Select the compound which is least acidic.

- Acidity of phenol is due to**

Q.16 Acidity of phenol is due to a Benzene ring.

a. Benzoic acid b. Phenol

phenoxide ion



Q.349 When ethanol is warmed with ethanoic acid in the presence of strong acid catalyst, an ester ethyl ethanoate is formed



During this reaction

- a. Alcohol is reduced
 - b. O-H bond in ethanol is broken
 - c. O-H bond in ethanoic acid is broken
 - d. Acid is oxidized

Q.350 Which one the following compounds is known as tertiary alcohol?

- a. 2-Methyl-1-propanol
- b. 2-Methyl-2-propanol
- c. 2-Propanol
- d. 1-Propanol

Q.351 Formalin is the solution of formaldehyde in water

- a. 10%
- b. 20%
- c. 60%
- d. 40%

Q.352 Ethyne when treated with water in the presence of H_2SO_4 produces

- a. Ethanal
- b. Methanal
- c. Propanal
- d. Propanone

Q.353 The color of iodoform is

- a. White
- b. Yellow
- c. Blue
- d. Black

Q.354 When aliphatic aldehyde is treated with Fehling's solution, a brick-red precipitate of _____ is formed

- a. Copper (I) oxide
- b. Copper (II) oxide
- c. Copper (II) hydroxide
- d. Copper (I) hydroxide

Q.355 Phenyl hydrazone is formed on treatment of carbonyl compound with

- a. Phenyl Hydrazine
- b. Hydroxyl amine
- c. oximes
- d. Urea

Q.356 Which of the following reagent reacts with both aldehydes and ketones

- a. Tollen's reagent
- b. Fehling' solution
- c. Benedict' solution
- d. Grignard reagent

Q.357 _____ acts as nucleophile in aldol condensation, which attacks the electrophilic carbonyl carbon atom of the unchanged second molecule

- a. Hydroxide ion
- b. Alkoxide ion
- c. Carbanion
- d. Crotonaldehyde

Q.358 Aldehydes and ketones are functional group isomers with general formula

- a. $C_nH_{2n}O$
- b. C_nH_nO
- c. $C_nH_{3n}O$
- d. $C_{2n}H_{2n}O$

Q.359 Which of the following compounds belong to homologous series of aldehydes

- a. $\begin{matrix} O \\ || \\ H-C-Cl \end{matrix}$
- b. $\begin{matrix} O \\ || \\ H-C-NH_2 \end{matrix}$
- c. $\begin{matrix} O \\ || \\ H-C-H \end{matrix}$
- d. $\begin{matrix} O \\ || \\ H-C-OC_2H_5 \end{matrix}$

Q.360 Both aldehydes and ketones are planer to the neighborhoods of carbonyl ($C=O$)

group. Which one of the following bonds is distorted towards the oxygen atoms?

- a. π bond of C and O
- b. Sigma bond of C and O
- c. Sigma bond of C and H
- d. Sigma bond of C and C

Q.361 The carbon atom of a carbonyl group is

- a. sp hybridized
- b. sp^2 hybridized
- c. sp^3 hybridized
- d. dsp^2 hybridized

Q.362 $5CH_3-4CH_2-3CH_2-2CH_2-1CHO$, which one is α -carbon in given structure

- a. 1
- b. 3
- c. 2
- d. 4

Q.363 In carbonyl group the carbon atom has

- a. Partial negative charge and is electrophilic
- b. Partial negative charge and is nucleophilic
- c. Partial positive charge and is nucleophilic
- d. Partial positive charge and is electrophilic

Q.364 Isobutyl alcohol on oxidation gives compound, which contains functional group of

- a. Ether
- b. Carboxylic acid
- c. Aldehyde
- d. Ketone

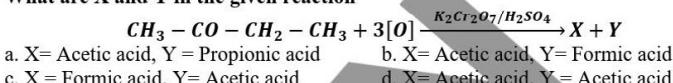
Q.365 What the product will be, when secondary alcohols are oxidized in the presence of acidified $\text{Na}_2\text{Cr}_2\text{O}_7$

- a. Alkenes
- b. Alkyl halides
- c. Alkynes
- d. Ketones

Q.366 Why is it necessary to distill aldehyde formed from oxidation of primary alcohol through acidified potassium dichromate (VI) solution or acidified sodium dichromate (VI) solution?

- a. Aldehyde formed is unstable and decompose back to original precursor i.e. primary alcohol
- b. Aldehyde formed may react with primary alcohol, the original reactant
- c. Aldehyde may be oxidized further to a ketone
- d. Aldehyde formed may be oxidized further to carboxylic acid

Q.367 What are X and Y in the given reaction



Q.368 Acetaldehyde is prepared in the laboratory by the oxidation of

- a. Methanol
- b. 2-Propanol
- c. 1-Propanol
- d. Ethanol

Q.369 Formaldehyde is manufactured in the laboratory by passing a mixture of methanol vapours and air over

- a. $\text{FeO}, \text{Mo}_2\text{O}_3$
- b. $\text{Al}_2\text{O}_3, \text{SiO}_2$
- c. Pt-asbestos
- d. Fe, MgO

Q.370 Ketones can be prepared by

- a. Oxidation of secondary alcohol
- b. Hydration of alkynes
- c. Dry distillation of calcium acetate
- d. All of these

Q.371 Which of the following is most reactive

- a. $\text{C}_6\text{H}_5\text{CHO}$
- b. HCHO
- c. CH_3CHO
- d. $\text{CH}_3\text{CH}_2\text{CHO}$

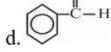
Q.372 Which of the following cannot be produced by treatment of aldehyde or ketone with NaBH_4

- a. 1-Propanol
- b. 2-Methyl-2-propanol
- c. 2-Propanol
- d. Ethanol

Q.373 Which of the following does not react with 2,4-dinitrophenyl hydrazine

- a. Ethanol
- b. Acetone
- c. Ethanal
- d. Methanal

Q.374 Tollen's reagent does not react with

- a. $(\text{CH}_3)_2\text{CO}$
- b. CH_3CHO

- c. HCHO

Q.375 Propanone does not undergo

- a. Reduction of Fehling's solution
- b. Hydrazone formation
- c. Cyanohydrin formation
- d. Formation of complex with sodium nitroprusside

Q.376 $\text{CH}_3 - \text{CH} = \text{CH} - \text{CHO} \longrightarrow \text{CH}_3 - \text{CH} = \text{CH} - \text{CH}_2\text{OH}$

Which of the following reagent is used for above reaction

- a. H_2/Ni
- b. $\text{K}_2\text{Cr}_2\text{O}_7/\text{H}_2\text{SO}_4$
- c. $\text{NaBH}_4/\text{H}_3\text{O}^+$
- d. I_2/NaOH

Q.377 Cannizzaro's reaction is given by

- a. Formaldehyde
- b. Benzaldehyde
- c. Trimethylacetaldehyde
- d. All of these

Q.378 Aldehydes combine with alcohols in the presence of hydrogen chloride gas to form

- a. Ester
- b. Acetal
- c. Carboxylic acid
- d. Acid halide

Q.379 Which of the following compounds give positive iodoform test as well as Tollen's test

- a. Methanal
- b. Propanal
- c. Ethanal
- d. Propanone

- Q.380** $\text{HCHO} + \text{HCN} \longrightarrow \text{H}_2\text{C}-\text{CN}$ in the above reaction nucleophile is
 a. CN^- b. HCl
 c. Cl^- d. OH^-

Q.381 Consider the following reaction:
 $\text{R-CHO} + 2[\text{Ag}(\text{NH}_3)_2]\text{OH} \longrightarrow \text{RCOOH}_4 + 2\text{Ag} + 2\text{NH}_3 + \text{H}_2\text{O}$
 this reaction represents which of the following tests
 a. Fehling test b. Benedict test
 c. Ninhydrin test d. Tollen's test

Q.382 Formaldehyde reacts with HCN ($\text{NaCN} + \text{HCl}$) to give a compound

 a.
 b.
 c.
 d.

Q.383 Iodoform test will not be positive with
 a. $\text{CH}_3 - \text{CH}_2 - \overset{\text{O}}{\underset{\parallel}{\text{C}}} - \text{CH}_2 - \text{CH}_3$
 b. $\text{C}_2\text{H}_5\text{OH}$
 c. $\text{CH}_3 - \text{CH}_2 - \overset{\text{O}}{\underset{\parallel}{\text{C}}} - \text{CH}_3$
 d. $\text{CH}_3 - \overset{\text{O}}{\underset{\parallel}{\text{C}}} - \text{H}$

Q.384 What is the structure of alcohol which on oxidation with acidified $\text{Na}_2\text{Cr}_2\text{O}_7$ gives $\text{C}_6\text{H}_5\text{-CO-CH}_3$.
 a.
 b.
 c.
 d.

Q.385 Which group gives a yellow precipitate of triiodomethane when warmed with alkaline aqueous iodine?
 a. An amide group, $\text{CH}_3 - \overset{\text{O}}{\underset{\parallel}{\text{C}}} - \text{NH}_2$
 b. A primary alcohol group as in propanol, $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$
 c. Ethyl ketone group, $\text{C}_2\text{H}_5 - \overset{\text{O}}{\underset{\parallel}{\text{C}}} - \text{NH}_2$
 d. Methyl ketone group, $\text{CH}_3 - \overset{\text{O}}{\underset{\parallel}{\text{C}}} -$

Q.386 $\text{R}-\text{CH}=\text{N}-\text{NH}-\text{C}_6\text{H}_3(\text{NO}_2)_2$ It is a general formula of:
 a. 2,4 dinitrophenyl hydrazine b. Phenyl hydrazone
 c. 1,3 dinitrophenyl hydrazone d. 2,4 dinitrophenyl hydrazine

Q.387 Which one of the following test is given by both aldehyde and ketone?
 a. Silver mirror test b. 2,4 DNPH test
 c. Fehling's solution test d. Benedict's solution test

Q.388 The reaction of aldehydes and ketones with ammonia derivative $\text{G}-\text{NH}_2$ to form compounds containing the group $\text{C}=\text{N}-\text{G}$ and water is known as _____ reaction.
 a. Nucleophilic addition b. Electrophilic addition
 c. Nucleophilic substitution d. Addition Elimination

Q.389 Which one of the following compounds will give iodoform test on treatment with aqueous iodine?
 a. 3-pentanone b. Propanal
 c. Propanone d. Butanal

Q.390 Which one of the following reagents is used to distinguish between aldehydes and ketones?
 a. Tollen's reagent b. Bromine
 c. 2,4-DNPH d. Alkaline iodine

$$\text{Q.407 } \text{C}_2\text{H}_5\text{OH} + \text{CH}_3\text{COOH} \rightleftharpoons \text{CH}_3\text{COOC}_2\text{H}_5 + \text{H}_2\text{O}$$

Which of the following catalyst is used in the above reaction

- a. Conc. H_2SO_4
b. Pt
c. LiAlH_4
d. Ni

Q.408 Which of the following compounds will react with NaOH(aq.) , Na_2CO_3 and PCl_5 ?

- a. CH_3CHO b. $\text{CH}_3\text{CH}_2\text{OH}$
 c. $\text{C}_6\text{H}_5\text{OH}$ d. CH_3COOH

Q.409 Compounds having $-C \equiv N$ group are called

Q.410 Acetamide is prepared by

- a. Heating ammonium acetate
 - b. Heating methyl cyanide
 - c. Heating ethyl acetate
 - d. The hydrolysis of ethyl cyanide

Q.411 An aqueous solution of an organic compound reacts with sodium carbonate to produce carbon dioxide gas. Which one of the following could be the organic compound?

- compound:**

 - a. $\text{CH}_2=\text{CH}-\text{CH}_3$
 - b. CH_3-CHO
 - c. $\text{CH}_3\text{COOC}_2\text{H}_5$
 - d. $\text{CH}_3-\text{CH}_2-\text{COOH}$

Q.412 A food chemist wants to create the odour of pineapple for a product. An ester with this odour has the formula $C_3H_7CO_2C_2H_5$. The reactants are

- a. $\text{C}_2\text{H}_5\text{Cl}$ and $\text{C}_3\text{H}_7\text{CO}_2\text{H}$
b. CH_3OH and $\text{C}_3\text{H}_7\text{CO}_2\text{H}$
c. $\text{C}_2\text{H}_5\text{OH}$ and $\text{C}_3\text{H}_7\text{CO}_2\text{H}$
d. $\text{C}_3\text{H}_7\text{OH}$ and $\text{C}_2\text{H}_5\text{COCl}$

Q.413 The reaction of carboxylic acids with alcohols in presence of conc. H_2SO_4 is called

Q.414 Which one of the following given the correct order of acid strength (strongest first) for ethanoic acid, chloroethanoic acid and phenol?

- a. $\text{CH}_3\text{CO}_2\text{H}$ $\text{C}_6\text{H}_5\text{OH}$ $\text{CH}_2\text{ClCO}_2\text{H}$
 c. $\text{CH}_2\text{ClCO}_2\text{H}$ $\text{C}_6\text{H}_5\text{OH}$ $\text{CH}_3\text{CO}_2\text{H}$
 b. $\text{CH}_3\text{CO}_2\text{H}$ $\text{CH}_2\text{ClCO}_2\text{H}$ $\text{C}_6\text{H}_5\text{OH}$
 d. $\text{CH}_2\text{ClCO}_2\text{H}$ $\text{CH}_3\text{CO}_2\text{H}$ $\text{C}_6\text{H}_5\text{OH}$

Q.415 Acetic acid can be produced by the reaction of "A" with CH_3Cl followed by acid hydrolysis. The "A" is

- a. ClCN b. KCN
c. KCl d. NH₃

Q.416 2-Butene heated with alkaline or acidic KMnO₄ forms

- a. Butanoic acid b. Propanoic acid
c. Oxalic acid d. Ethanoic acid

Q.417 Carboxylic acid reacts with sodium hydroxide to form salt, belong to _____ reaction

- a. Nucleophilic substitution
 - b. Nucleophilic addition
 - c. Electrophilic substitution
 - d. Free radical substitution

Q.418 Propanoic acid liberates CO_2 from Na_2CO_3 . The carbon of CO_2 comes from

- | | |
|--------------------|-------------------|
| a. Methyl group | b. Carboxyl group |
| c. Methylene group | d. Carbonate ion |

Q.419 Organic compounds A and B react together to form organic compound C. What type of compounds can A, B and C be

	A	B	C
a.	Alcohol	Ester	Acid
b.	Acid	Ester	Alcohol
c.	Ester	Alcohol	Acid
d.	Alcohol	Acid	Ester

- Q.420 Which of the following is not a fatty acid**
- a. Palmitic acid
 - b. Stearic acid
 - c. Butanoic acid
 - d. Oxalic acid
- Q.421 The reaction of carboxylic acid in which hydrogen atom of carboxyl group is involved**
- a. Reaction with PCl_5
 - b. Reaction with $\text{C}_2\text{H}_5\text{OH}$
 - c. Reaction with NH_3
 - d. Reaction with Na metal
- Q.422 Velaric acid is obtained from a herb velarian, its IUPAC name is**
- a. Propionic acid
 - b. Butyric acid
 - c. Pentanoic acid
 - d. Caproic acid
- Q.423 The pure acetic acid freezes to an ice like solid at**
- a. 17 K
 - b. 273K
 - c. 298K
 - d. 290K
- Q.424 Which of the following is strongest acid**
- a. Butanoic acid
 - b. Methanoic acid
 - c. Ethanoic acid
 - d. Propanoic acid
- Q.425 Which of the following is the weakest acid?**
- a. Bromoacetic acid
 - b. Chloroacetic acid
 - c. Acetic acid
 - d. Fluoroacetic acid
- Q.426 Select the carboxylic acid which has different smell from others**
- a. Formic acid
 - b. Acetic acid
 - c. Butyric acid
 - d. Propionic acid
- Q.427 The correct order of decreasing acid strength of A=trichloroacetic acid, B=dichloroacetic acid, C=chloroacetic acid and D=acetic acid is**
- a. A > B > C > D
 - b. A > C > B > D
 - c. B > A > C > D
 - d. B > D > C > A
- Q.428 Ethane nitrile on boiling with mineral acids or alkalies yields corresponding**
- a. Ethanol
 - b. Ethanal
 - c. Ethyl amine
 - d. Ethanoic acid
- Q.429 How many grams of sodium metal are used with ethanoic acid to form one mole of H_2 gas**
- a. 23
 - b. 46
 - c. 24
 - d. 12
- Q.430 Propanoic acid on reduction with HI and red phosphorus gives**
- a. Ethanal
 - b. Propane
 - c. Ethane
 - d. Propene
- Q.431 The alkyl group present in an ester having raspberry flavour is**
- a. Amyl
 - b. Octyl
 - c. Isobutyl
 - d. Ethyl
- Q.432 The reducing agent for reduction of an ester is**
- a. NaBH_4
 - b. LiAlH_4
 - c. H_2S
 - d. H_2SO_4
- Q.433 The functional group of alkanoic anhydride is**
- a. $\begin{array}{c} \text{O} & \text{O} \\ || & || \\ -\text{C}-\text{O}-\text{C}- \end{array}$
 - b. $\begin{array}{c} \text{O} & \text{O} \\ || & || \\ -\text{C}-\text{C}- \end{array}$
 - c. $\begin{array}{c} \text{O} & \text{O} \\ || & || \\ -\text{C}-\text{C}-\text{O} \end{array}$
 - d. $\begin{array}{c} | & & \text{O} \\ | & & || \\ -\text{C}-\text{O}-\text{C}- \end{array}$

Q.434 The organic acid which has almost same boiling point as water as at standard pressure is

- a. HCOOH
- b. CH₃OOH
- c. CH₃CH₂COOH
- d. CH₃CH₂—CH₂—COOH

Q.435 On complete reduction of CH₃—COOH. The underlined group after reduction changes into

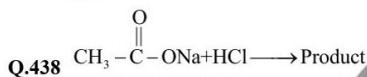
- a. —CH₂—OH
- b. —OH
- c. —CH₃
- d. —CHO

Q.436 Acetic acid is miscible with all proportions in

- a. Water
- b. Alcohol
- c. Ether
- d. All of these

Q.437 The number of carbon atoms involved in a dimer molecule of acetic acid are

- a. 2
- b. 3
- c. 4
- d. 5



The product obtained is

- a. $\text{CH}_3-\overset{\text{O}}{\underset{\parallel}{\text{C}}}-\text{Cl}$
- b. $\text{CH}_3-\overset{\text{O}}{\underset{\parallel}{\text{C}}}-\text{OH}$
- c. $\text{CH}_3-\overset{\text{O}}{\underset{\parallel}{\text{C}}}-\text{H}$
- d. CH₄

Q.439 Which enzyme is used to convert glucose into ethanol

- a. Zymase
- b. Invertase
- c. Diastase
- d. Maltase

Q.440 Legumin and collagen proteins are present in the connective tissues throughout the body. They are categorized under

- a. Conjugated proteins
- b. Derived proteins
- c. Simple proteins
- d. Compound proteins

Q.441 The simple sequence of the amino acids combined in a peptide chain is referred to as the _____

- a. Secondary structure
- b. Primary structure
- c. Tertiary structure
- d. Quaternary structure

Q.442 Haemoglobin is a

- a. Transport protein
- b. Building protein
- c. Genetic protein
- d. Structural protein

Q.443 Collagen is a fibrous protein present most abundantly in

- a. Tendons
- b. Arteries
- c. Hair
- d. Nail

Q.444 The enzyme useful for treatment of blood cancer in children is

- a. Phospho-transferase
- b. Carbonic anhydrase
- c. L-asparaginase
- d. LDH-1

Q.445 The substance which reduces the enzyme activity

- a. Apoenzyme
- b. Inhibitor
- c. Activator
- d. Co-enzyme

Q.446 Which of the following enzyme has Fe+2 ions as co-factor?

- a. Chrome oxidase
- b. Phosphatase
- c. Carbonic anhydrase
- d. Glucose -6-phosphatase

Q.447 Propanedioic acid is the IUPAC name of

- a. Malonic acid
- b. Maleic acid
- c. Oxalic acid
- d. Tartaric acid

Q.448 The rate of an enzymatic reaction is directly proportional to the

- a. [Enzyme]²
- b. [Enzyme]³
- c. [Enzyme]^{1/2}
- d. $[\sqrt{[\text{Enzyme}]})$

Q.449 Which of the following statement is correct about enzymes?

- a. They are specific in their action
- b. They are protein in nature
- c. Most enzymatic reactions are reversible
- d. All of these

Q.450 Which of the following derivative of carboxylic acid is more reactive?

- a. Acetamide
- b. Ethyl acetate
- c. Acetic anhydride
- d. Acetyl chloride



1	D	51	D	101	B	151	D	201	D	251	D	301	B	351	D	401	A		
2	D	52	C	102	C	152	B	202	C	252	D	302	A	352	A	402	C		
3	A	53	C	103	C	153	C	203	A	253	C	303	A	353	B	403	B		
4	B	54	B	104	D	154	D	204	D	254	D	304	D	354	A	404	A		
5	A	55	D	105	B	155	B	205	B	255	C	305	C	355	A	405	C		
6	C	56	D	106	C	156	C	206	C	256	C	306	D	356	D	406	A		
7	D	57	B	107	A	157	C	207	D	257	A	307	D	357	C	407	A		
8	A	58	C	108	C	158	C	208	B	258	C	308	A	358	A	408	D		
9	A	59	B	109	C	159	C	209	C	259	B	309	A	359	C	409	C		
10	D	60	C	110	B	160	B	210	C	260	B	310	D	360	A	410	A		
11	A	61	C	111	D	161	B	211	B	261	C	311	C	361	B	411	D		
12	C	62	C	112	A	162	C	212	D	262	B	312	A	362	C	412	C		
13	C	63	C	113	A	163	C	213	A	263	B	313	C	363	D	413	A		
14	C	64	C	114	D	164	C	214	C	264	C	314	D	364	C	414	D		
15	B	65	D	115	C	165	D	215	C	265	B	315	B	365	D	415	B		
16	C	66	C	116	B	166	B	216	B	266	D	316	B	366	D	416	D		
17	D	67	A	117	D	167	D	217	C	267	C	317	C	367	D	417	C		
18	D	68	D	118	B	168	C	218	C	268	A	318	C	368	D	418	D		
19	B	69	D	119	D	169	C	219	B	269	D	319	D	369	C	419	D		
20	B	70	C	120	B	170	B	220	B	270	B	320	A	370	D	420	D		
21	B	71	D	121	D	171	A	221	A	271	D	321	C	371	B	421	D		
22	A	72	D	122	B	172	A	222	A,C	272	C	322	A	372	B	422	C		
23	A	73	D	123	C	173	A	223	B	273	C	323	D	373	A	423	D		
24	C	74	D	124	B	174	C	224	A	274	C	324	B	374	A	424	B		
25	D	75	A	125	D	175	B	225	B	275	C	325	A	375	A	425	C		
26	B	76	D	126	B	176	B	226	D	276	D	326	B	376	C	426	C		
27	B	77	C	127	B	177	C	227	A	277	D	327	B	377	D	427	A		
28	A	78	D	128	B	178	A	228	D	278	C	328	A	378	B	428	D		
29	B	79	D	129	B	179	B	229	C	279	D	329	B	379	C	429	B		
30	D	80	B	130	A	180	D	230	D	280	C	330	A	380	A	430	B		
31	C	81	B	131	D	181	B	231	C	281	D	331	D	381	D	431	C		
32	C	82	B	132	D	182	D	232	A	282	D	332	A	382	C	432	B		
33	C	83	A	133	C	183	B	233	C	283	D	333	C	383	A	433	A		
34	A	84	B	134	D	184	A	234	B	284	C	334	C	384	A	434	A		
35	C	85	B	135	B	185	C	235	C	285	B	335	A	385	D	435	C		
36	A	86	D	136	C	186	A	236	D	286	D	336	C	386	D	436	D		
37	A	87	B	137	C	187	D	237	C	287	A	337	B	387	B	437	A		
38	A	88	C	138	B	188	C	238	C	288	C	338	D	388	D	438	B		
39	D	89	D	139	D	189	B	239	B	289	D	339	D	389	C	439	A		
40	D	90	C	140	A	190	D	240	C	290	C	340	D	390	A	440	C		
41	B	91	D	141	D	191	D	241	D	291	B	341	B	391	D	441	B		
42	C	92	B	142	C	192	D	242	A	292	A	342	A	392	D	442	A		
43	C	93	D	143	B	193	A	243	D	293	C	343	A	393	B	443	A		
44	C	94	B	144	B	194	D	244	D	294	C	344	D	394	B	444	C		
45	D	95	A	145	C	195	D	245	D	295	C	345	D	395	C	445	B		
46	A	96	B	146	A	196	A	246	C	296	D	346	D	396	A	446	A		
47	C	97	A	147	B	197	A	247	B	297	C	347	B	397	C	447	A		
48	A	98	A	148	C	198	C	248	D	298	D	348	B	398	C	448	D		
49	B	99	A	149	D	199	A	249	C	299	C	349	B	399	C	449	D		
50	A	100	C	150	B	200	B	250	A	300	C	350	B	400	D	450	D		