CHM 102

1. The other name for group II element is _____ Alkaline Earth metals.

2. Which of the following is completely an acid (a). HCl (b). NaCl (c). HBr (d). HI

3. The atomic radius of group 1 element _____ from Li to Fr (a). Remain constant (b). Increase (c). Decrease (d). Undetermined

4. How many unsaturated isomers are possible for C_4H_8 (a). 4 (b). 6 (c). 5 (d). 3

5. What is the chemical formula for Astatine (a). Tn (b). At (c). As (d). St

6. How many mole of oxygen will be needed for complete combustion of butene?

(a). 6moles (b). 5moles (c). 5.5mole (d). 6.5moles

7. The bend angle in C_2H_4 is (a). 18° (b). 109° (c). 90° (d). 120°

8. Alkanol react with alkanoic acid to form

(a). Alkanoates and water (b). Alkanoates and alkanones (c). Alkanoates and phenol (d). Ester and ethene

9. Acetene reacting with HCN to form a cyanohyctin is an example of a/an

(a). Nuclephilic substitution (b). Nuclephilic addition (c). Electrophilic addition (d). Electrophilic substitution

10. Which one is group 1 element (a). Rb (b). Rn (c). Ra (d). Ru

11. _____ has the highest ionization potential (a). Helium (b). Radon (c). Xenon (d). Krypton

12. What is the alkene hybridization (a). Sp^2 (b). Sp^3 (c). S^2p (d). Sp

13. Which of the following is completely an acid (a). NaCl (b). HCl (c). HBr (d). HI

14. The type of bonding with formation of ammonium ion is known as (a). Coordinate covalent bond (b). Ionic bond (c). Covalent bond

15. _____ isomers are non-superimposable (a). Stereoisomer (b). Geometric (c). Optical (d). Positional isomer

16. Quantitative analysis show that the empirical formula of a compound is CH. The vapour density is found to be 39. Find the molecular formula (a). C_2H_2 (b). C_6H_6 (c). C_6H_{12} (d). C_2H_6

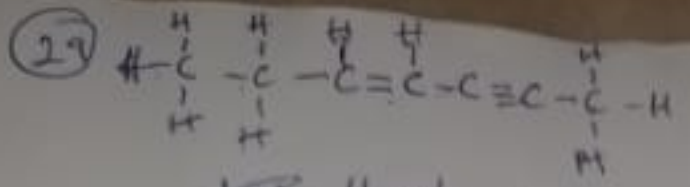
17. Group VII element exist freely in the atmosphere as (a). Hybride (b). Diatom (c). Mono atom (d). Ions

18. One of the product of combustion of pentane in excess air is (a). Pentene (b). Pentanol (c). Pentanal (d). Carbon (iv) oxide

19. How many structure isomer is present in C_4H_9OH (a). 6 (b). 4 (c). 5 (d). 3

20. Group II of the periodic table is also known as (a). Alkali metals (b). Halogen (c). Alkaline earth metal (d). Noble gas

21. Hybridization contain (a). Sigma bond throughout (b). Pi-bond throughout (c). One sigma and one pi-bond (d). None

(29) 

~~Hept~~ Hept-4-en-2-yne

22. _____ is the ability of element to attract ion toward itself (a). Electron affinity (b). Electronegativity (c). Covalent (d). Ionic

23. Reaction between C_2H_2 and HBr is called (a). Addition (b). Polymerization (c). Oxidation (d). Substitution

The process is Hydrohalogenation.

24. Reduction of an organic acid gives (a). Secondary alcohol (b). Tertiary alcohol (c). Primary alcohol (d). Polyhydric alcohol

25. _____ is used in dry cleaning (a). CH_3Cl_3 (b). CCl_4 (c). CH_2Cl_2 (d). CH_3Cl

26. Alkane have _____ bond (a). Single (b). Double (c). Triple (d). Half

27. Alkane are generally known to be (a). Polar (b). Non-polar (c). Crystalline (d). Cyclo alkane

28. The most reactive element in group 1 (alkaline metal) is (a). Fr (b). Li (c). Na (d). Al

Across down the group

29. What is the name given to the compound $CH_3CH_2CH{=}CHC{\equiv}CCH_3$

30. The valence electron in alkali metal is (a). 1 (b). 3 (c). 2 (d). 4

31. Aldehyde undergoes oxidation with $KMnO_4$ to give (a). Ketone (b). Alkanone (c). Carboxylic acid

32. Conversion of pen-1-ene to pen-2-ene when heated at high temperature is (a). Oxidation (b). Isomerism reaction (c). Reduction

33. The central ion in $Ni(CO)_4$ is (a). CO (b). C (c). Ni (d). $(CO)_4$

34. What is the positive ion in $Na[Au(CN)_2]$ (a). Au (b). Na (c). $Au(CN_2)$ (d). CN

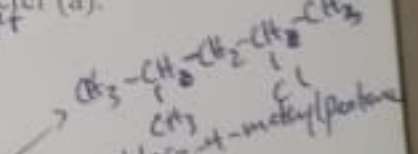
35. Transition metals have what type of bond between atoms (a). Metallic (b). Ionic (c). Covalent (d). Dative

36. Presence of _____ dipole moment gives the fact that the compound has certain ionic character (a). induced (b). Permanent (c). Electric (d). Instanteneous

$Be^{2+} > Mg^{2+} > Ca^{2+} > Sr^{2+} > Ba^{2+}$

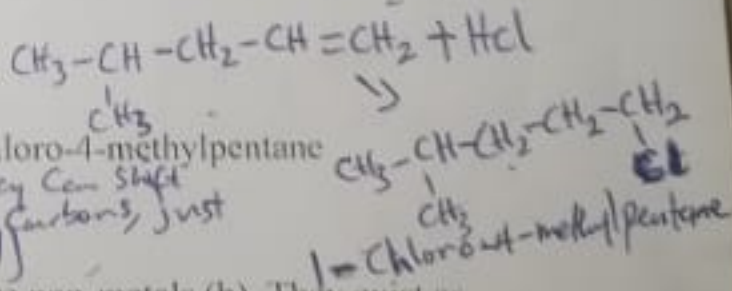
BaF MgF_2 CaF_2

37. Which of the following fluoride is less soluble (a). $BeBr_2$ (b). BeI_2 (c). BeF_2 (d). $BaSr$



38. _____ is a species that has an unpaired electron (a). Free radical

39. Product of halogenation of 4-methylpent-1-ene with HCl is _____



(a). 4-methyl-1-chloropentane (b). 2-Chloro-4-methylpentane (c). 3-Chloro-4-methylpentane (d). 4-Chloro-2-methylbutane

(We have to work with Options they Can Shift the Position of chlorine to other Carbons, just note that Carbon is tetrahedral)

40. The following are the characteristic of halogens except (a). They are non-metals (b). They exist as diatomic molecule (c). They are all coloured (d). They ionize to form univalent ion

41. Empirical formula = $C_{24}H_{37}O_7$, molecular mass = 875.106. Find the molecular formula

(a). $C_{24}H_{42}O_8$ (b). $C_{48}H_{74}O_{14}$ (c). $C_{14}H_{37}O_7$ (d). $C_{12}H_{18}O_3$

42. Name this $(CH_3)_2CHC{\equiv}CCH_3$ (a). 4,4-dimethylbut-2-yne

43. Li_2O is best prepared by _____ of Li_2O_2 at 450°C (a). Substitution (b). Oxidation (c). Reduction (d). Thermal decomposition

44. The valence electrons in alkali metals is /are (a). one (b). two (c). three (d). four

45. The combustion of pentene in excess air is (a). pentene (b). Carbon(iv)oxide (c). Pentanol (d). Pentanal

46. 3-methylbutan-3-ol and 3-methylbutan-2-ol is _____ and _____

(a). Secondary/Secondary (b). Tertiary/Secondary (c). Secondary/Tertiary (d). Tertiary/Tertiary

47. Which of the following is not an alcohol (a). Monohydric (b). Dihydric (c). Trihydric (d). Tetrahydric

48. IUPAC name for $CH_3CH_2CH{=}CHC{\equiv}CCH_3$ is

(a). Hept-4-en-2-yne (b). Hept-3-en-5,yne (c). Hept-4-en-2,yne (d). Hept-3-en-5-yne

49. Reaction between propene and chlorine will result in (a). 1,2-dichloropropane (b). 1,1-dichloropropane (c). 2,2-dichloropropane (d). 1-chloropropane

50. $CH_3CH_3 + Cl_2 \rightarrow CH_3CH_2Cl + HCl$. This reaction is?

(a). Saponification (b). Substitution (c). Esterification (d). Addition

51. The bond in NH_3BF_3 molecule is (a). Ionic (b). Hydrogen (c). Covalent (d). Dative covalent

52. How many possible structure isomers are in unsaturated monohydric alkanol C_4H_9OH

(a). 5 (b). 6 (c). 3 (d). 4

53. Alkenes are generally _____ hybridized (a). Sp (b). Sp^3 (c). S^2p (d). Sp^2

54. Fluorine in all compound has oxidation number of (a). –2 (b). +2 (c). –1 (d). –7

55. Reduction of ketone gives _____ (a). Secondary alcohol (b). Primary alcohol (c). Ketal (d). Carboxylic

56. Isomerisation of alkane occur at (a). HCl/300°C (b). CCl_4/300°C (c). $AlCl_3$/300°C (d). SO_3/300°C

57. Alkanones are also known as _____

58. Ketones are reduced to yield _____

59. Sp^2 hybridization has how many sigma (σ) bond and pi (π) bond?

60. Reduction of aldehyde and ketone give us _____

61. The bond angle of C_2H_4 is _____

62. Find the molecular formula of compound containing 84.57 of carbon, 9.86 of hydrogen and 5.63 of oxygen

63. When the carbonyl group of an hydrocarbon is located in between the methylene chain, the hydrocarbon is (a). An alkanal (b). An aldehyde (c). An alkanone (d). None

64. The dehydrating agent for secondary agent for secondary alcohol is (a). Weak acid (b). Dilute H_2SO_4 (c). Conc. H_2SO_4 (d). All acids

65. C=O is called (a). Carboxylic group (b). Cabin group (c). Kanal group (d). Carbonyl group

The solubility of phenols is much lower than that of alcohol

66. The solubility of phenol is (a). Higher in water than alcohol (b). Higher in alcohol than water (c). Equal in both liquid (d). None

67. Which of the following exhibits isomerism (a). Ethyne (b). Propyne (c). Methane (d). Butane
isomerism starts from (but)

68. The H-C-H bond angle in CH_4 is (a). 120° (b). 90° (c). 109°28' (d). 180°

69. _____ is the most reactive metal in periodic table (a). Li (b). Fr (c). Ca (d). Na
charge density is ratio of charge to size. Cations with high charge & small size have higher polarizing power than anions with lower charge and higher size

70. Al^{3+} is highly polarizing due to its (a). High melting point (b). Low melting point (c). High charge density (d). Low charge density

71. Alkene undergo the following reaction except (a). Substitution (b). Polymerization (c). Addition (d). Hydration

72. Molten sodium chloride is also called (a). Common salt (b). bawuire (c). roadsalt (d). none of the above
or fused salt / table salt

73. How many structural isomers are possible for C_4H_9Br (a). 2 (b). 3 (c). 4 (d). 5

74. Alkanols react with alkanoic acid to form Alkanoate (ester) and water

75. The IUPAC name of the compound $CH_3CH_2CH{=}CHC{\equiv}CCH_3$ is Hept-2-ene-2-yne

76. Any species that contain unpaired electron are called (a). Anion (b). free radicals (c). Cation (d). Ion

77. How many sigma and pi-bond present in the double bond (a). 0, 3 (b). 1, 1 (c). 1, 2 (d). 1, 0

78. 3-methylpentan-3-ol and 3-methylpentan-2-ol are example of _____ and _____ alkanols respectively (a). Secondary, Secondary (b). Tertiary, Secondary (c). Tertiary, tertiary (d). Secondary, Tertiary

79. Alkanol react with alkanoic acid to form (a). Alkanoates and water (b). Ester and ethers (c). Alkanoates and phenols (d). Alkanals and Alkanones

80. Sp^3 has _____ sigma bond and _____ π bond (a). 3 and 2 (b). 1 and 0 (c). 4 and 3 (d). 1 and 3

81. The intermediary product of reaction between propene and H_2SO_4 is $C_3H_6 + H_2SO_4 \rightarrow C_3H_7OSO_3H$

(a). $CH_2(SO_3H)CH_2CH_3$ (b). $CH_3CH_2(SO_3H)CH_3$ (c). $CH_3CH(OSO_3H)CH_3$ (d). $CH_2(OSO_3H)CH_2CH_3$

82. Alkanols form hydrogen bonding with ___ (a). Another alkanol (b). H_2O (c). Carboxylic acid (d). Ester

83. ___ is called alkaline hydrolysis of esters (a). Esterification (b). Saponification (c). Dehydration (d). Fermentation

84. The reason why the boiling point of alkanol decreases with increase branching is (a). The molecule cools easily (b). The molecule assumes a circular shape (c). The molecule assume of tetrahedral shape (d). The molecule assumes a spherical shape
Boiling Point increases as molecule weight increase
3° > 2° > 1°

85. Which of the following has the highest boiling point (a). 1° (b). 2° (c). 3° (d). Polyhydric alcohol
as molecule weight increase, solubility decreases

86. Which of the following has the highest solubility ___ (a). Secondary alcohol (b). Polyhydric alcohol (c). Tertiary alcohol (d). Dihydric alcohol
Order of Solubility 1° > 2° > 3°
The highest number of OH will have high solubility but in 1°, 2°, 3° alcohols solubility decreases with increase in mass

87. The raw material for a large scale production of ethanol (a). Starch (b). C_2H_6 (c). C_2H_2 (d). C_2H_4

Single bond (sp^3) → 1 sigma bond
Double bond (sp^2) → 1 sigma and 1 pi bond
Triple bond (sp) → 1 sigma and 2 pi bonds

$C_3H_7OH \rightarrow C_3H_6 + H_2O$

88. Dehydration of propan-1-ol produces (a). Propanoic acid (b). Propanol (c). Propene (d). Propan-1,2,3-triol

89. ____ is called alkaline hydrolysis of esters (a). Esterification (b). Saponification (c). Dehydration (d). Formation

90. ____ is used for etching glass (a). KrF_2 (b). PVC (c). Hf (d). Cl_2

91. Potassium naturally occur as (a). OOtomite (b). Carnalite (c). Lepilolite (d). Rubidus

92. The hybridization present in alkene is (a). Sp^3 (b). Sp (c). Sp^2 (d). Spp

93. Al^{3+} is a polarizing agent because (a). It has high boiling (b). It has melting point (c). It has lower density (d). It has higher density

94. _____ is a very reactive is _____ molecule (a). Ionic (b). Covalent (c). Dative

95. Bromine molecule is ____ molecule (a). Ionic (b). Covalent (c). Dative (d) diatom

96. The bond angle in CH_4 is 109° 28'

97. The molecular formula of this empirical formula CH_4 is CH_4

98. How many mole of oxygen is in the combustion of butane

$C_nH_{2n+2} + \frac{(3n+1)}{2}O_2 \rightarrow nCO_2 + (n+1)H_2O$

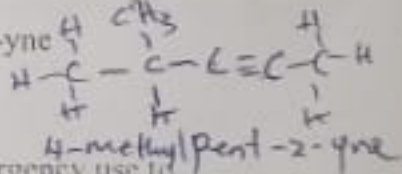
$C_4H_{10} + \frac{13}{2}O_2 \rightarrow 4CO_2 + 5H_2O$

$2C_4H_{10} + 13O_2 \rightarrow 8CO_2 + 10H_2O$

(8+5) = 13 moles

99. Alkene undergo the following except (a). Substitution (b). Hydrogenation (c). Combustion (d). Addition

100. $(CH_3)_2CHC{\equiv}CCH_3$ the IUPAC name is (a). 4-methylpent-2-yne (b). 2-methylpent-3-yne (c). 1,1-dimethylbut-2-yne (d). 4,4-dimethylbut-2-yne



101. During the 2020 covid-19 pandemic remdesivir was approved on authorized for emergency use to treat covid-19 is around 50 countries. If the molecular formula of remdesivir is $C_{27}H_{35}O_8P_8$. The percentage carbon and phosphorus composition in remdesivir are {C=12, H=1, N=14, O=16 and P=31}

(a). 55.82% and 5.15% respectively (b). 21.26% and 13.5% respectively (c). 5.81% and 53.82% respectively (d). 15.15% and 53.82% respectively

102. Alkanes have ____ bond

103. The most important reaction of phenols is Kolbe reaction

$2C_2H_5OH + 2Na \rightarrow 2C_2H_5ONa + H_{2(g)}$

104. The gas that evolved when alkanols react with sodium is Hydrogen gas

105. Which of the following bond exist between moleculous of ethanoic acid (a) Dative (b) hydrogen (c) covalent (d) ionic

106. 2-methylbutane and 2,2 – dimethylpropane are both Structural isomers of pentane (a) Chain, inbutane (b) Structural, pentane (c) Positional, pentane (d) branched, hexane

107. Which of these is not an optical isomer (a) dibromochlorofloro methane (b) Hydroxylpropanoic acid (c) butan –2- ol (d) Chloropentanoic acid.

108. Two nitrogen atoms form a stable (Ne) configuration by sharing _____ pair of electron to form a covalant bond (a) 3 (b) 2 (c) 1 (d) 4

109. The difference in the properties of isomer is due to (a) Molecular theory (b) Binding force (c) Different mode of combination (d) Different separation.

110. Which of the following is used in the dehydration of ethanol to give ethane (a). Dilute HNO_3 (b) Conc. HNO_3 (c) Conc. H_2S0_4 (d) H_2S0_4

111. Alkene undergo the following except ____ (a) Addition (b) Substitution (c) Hydration (d) Combustion

112. The chlorine atom and chloride atom has the same _____ (a) no of proton (b) No of electron (c) Atomic number (d) mass no

113. The most reactive element are found in _____ (a) Group IV (b) Group VII (c) Group IA (d) Group III

114. All these are classification of Alkanol except (a) Dihydric Alkanol (b) Trihydric alkanol (c) Tetrahydric alkanol (d) Polyhydric Alkanol

115. Which of SP hybridization has lower percentage in (a) SP^3 (b) SP^2 (c) All of the above (d) SP

116. $CaCO_3$ exist in _____ (a) Snail (b) Limestone (c) Wood (d) Sand

117. Alkene does not undergo which of the following _____ (a) Polymerization (b) Combustion (c) Substitution (d) Addition

118. Isomerization of alkane occur in the presence of _____

119. Reduction of ethanal with H_2/Ni give _____

120. The reactivity of group I metals _____ down the group.

121. The bond angle of SP^2 hybridization is _____ (a) Alkyne 180^0 (b) Alkene 120^0 (c) Alkane 109.5^0 28^1

122. Ethanoic acid is also known as _____

Answer: Acetic acid

123. $CH_3CH_2CH = CHC \equiv CCH_3$. The structure of the above structure is

Answer: Hept-3-ene-5-yne

124. The reaction between nitrogen and group II elements yields compound of the type (a) MN_3 (b) MN (c) M_3N_2 (d) M_3N_3

125. Alkene are generally (a) SP (b) S^2P (c) SP^2 (d). SP^3

126. Milk of Magnesia is hydroxide of (a) Copper (b) Mn (c) Ca (d) Mg

127. Oxidation of a Secondary alcohol with $K_2Cr_2O_7$ in the presence of an acid yields (a) Aldehyde (b) Ketone (c) Alcohol (d) Alkene

128. Hypo chloride are used (a) As an Oxidant fire ware and methes (b) In domestic bleaches (c) For etching glasses (d) for chlorinating drinking water

129. The product of halogenations of 4-methylpent-1-ol with HCl (a) 4–methyl–1–chlorobutane (b) 4–chloro–2–methylpentene (c) 3–chloro–4–methylpentene (d) 2–chloro–4–methylpentene.

130. Hydrogen halides have the general formular (a) HF (b) HX (c) HCl (d) HBr

131. What is the chemical Formula for Astatine (a) As (b) Tn (c) At (d) St

132. Give the structural formula of hept – 4 – ene – 2 – yne

133. What type of hybridization is present in H-C-H of CH_4

134. What type of hybridization is present in Alkene.

135. Organic compounds includes

136. An Organic dibasic acid contain 17.38% C, 1.45% H and 57.17% Br. If the vapour density is 16.6. Calculate the molecular formula of the acid.

137. The bond angle of C_2H_4 is (a) 180^0 (b). 120^0 (c) $109^0 28^1$ (d) 80^0

138. Which Hybridization exhibit one signal bond and one pi bond? (a) S^2p (b) Sp^3 (c)Sp^2 (d)sp

139. What is the hybridization of sp^3 (a)1,2 (b)1,1 (c) 2,1

140. Alkane burn in air to give ____ and ____ (a) CO and H_2O (b) CO_2 & O_2 (c) H_2O & O_2 (d) O_2 & H_2O

141. Methane is often called _____ (a) Olefin (b)Phenol (c)Mash gas (d) Behave

142. Ammonium ion is an example of which bond (a) Covalent bond (b)Ionic bond (c)Metallic bond (d)Dative bond

143. 2-methylbutan-2-ol and 2-methylbutan-1-ol are example of _____ isomerism (a) Positional (b)Optical isomerism (c)Structural isomerism (d)Geometrical isomerism

144. A drug with an empirical formula of $C_{27}H_{35}N_6P$ has endorsed by WHO for Covid -19. Find the mass of carbon and phosphorus in the drug.

145. A compound with an empirical formula $C_{24}H_{37}O_7$ has molecular mass of 875.106. Find the molecular formula.

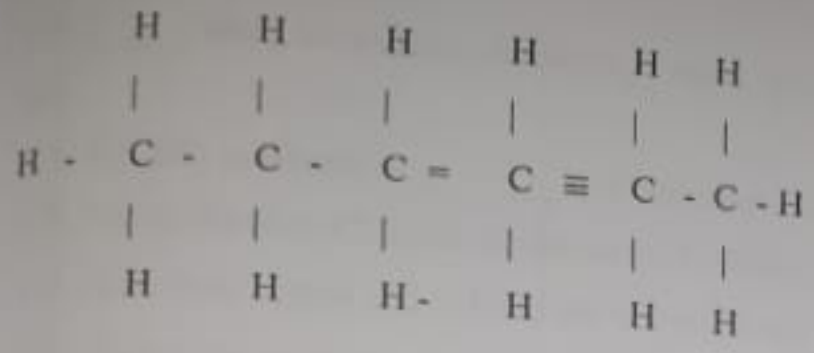
146. A compound contains 84.51% carbon, 9.86%, 5.63% Oxygen, find the Empirical and molecular formula.

147. Name the compound $CH_3CH_2CH{=}CHC{\equiv}CCH3$

148. For which of the following pairs of compounds can Tollens' test be performed (a) CH_3COCH_3 and $CH_3CO_2CH_3$ (b) CH_3COCH_3 and $C_2H_5COCH_3$ (c) CH_3CHO and CH_3COCH_3 (d) CH_3CO_2H and $CH_3CO_2CH_3$

149. _____ are ionic compound (a) Br_2 (b) AgI (c) HCl (d)None of the above

150. What is the IUPAC of



(a) Hept,4-en-2-yne (b) Hept-4,en-2-yne (c) Hept-3-en-2-yne (d) hept-3,en-2yne

151. How many c-atom are presence in 2-methylpentane (a) 2 (b)5 (c) 6 (d) 7

152. Which of the following contain 1 sigma and 1 pie bond (a)Alkane (b)Alkanol (c) Alkane(d)alkene

153. Which of the following contain 1 sigma and 2 pie (a)Alkyne (b)Alkanol (c)Alkane (d)Alkene

154. Akali metal belongs to _____ (a)Group I (b)Group II (c)Group III (d)Group IV (e) Group V

155. Which of the following contain 1 sigma (a)Alkano (b)Alkyne (c)Keton (d)Alkene

156. Which of the following compound is SP^2 Hybridization (a)Alkane (b)Alkanol (c)Alkye (d)Alkene

157. What is the molecular formula of Astatine (a)Tn (b)As (c)AT (d)AN

158. Which orbital overlap to create H-C bond and CH_3^{+3} (a) SP^3-SP^3 (b)SP^2-SP^3 (c)S-P (d)S-P^2

159. The order of stability of carbon ion is (a)Primary > Secondary> Tertiary (b)Secondary> Tertiary> Primary (c)Tertiary> Secondary> Primary (d)Tertiary> Primary> Secondary

160. The bond angle between C_2H_4 is (a)180^0 (b)120^0 (c)170^0 (d)170^0

161. Single bond has _____ sigma and _____ pie (a)1,0 (b)2,2 (c)1,1 (d)2,1

162. Double bond has _____ sigma and _____ pie (a)2,2 (b)1,1 (c)0,2 (d)1,0

163. Lutein is a powerful antioxidant and anticancer carotenoid found in high quantities in green leafy vegetable and is made up of 84.51% Carbon, 9.86% Hydrogen and 5.63% oxygen. If the molecular mass of lutein is 568.871. Its empirical and molecular formula are. (a)$C_{20}H_{26}O$ and $C_{40}H_{50}O_2$ respectively (b) $C_{40}H_{56}$ and $C_{20}H_{20}O_2$ respectively (c) C_5H_7 and $C_{40}H_{56}$ respectively (d) $C_{40}H_{56}$ and C_5H_{22} respectively

164. Which of the following group 2 element does not react with oxygen? (a) Bromine (b) Beryllium (c)Calcium (d) Magnesium

165. Give the name of the structure below $H_2C{=}C(CH_3)CH_2C(CH_3)_3$ (a) 2,4,4–trimethylpent-1-ene (b) Octane (c) 2,2,4- trimethyl – pent-5- ene (d) 2,4,2, trimethylpentane

167. Group VII & VIII belong to which orbital? (a)S-orbital (b)P-orbital (c) d-orbital (d) f-orbital

168. 3- methylpentan-3-ol and 3–methypentan-2-ol belong to ____& ____ alcohol (a)Tertiary, Tertiary (b)Tertiary, Secondary (c)Primary, Secondary (d)Secondary, tertiary

169. Ethanol will react with Hydrogen molecule to give _____ reaction.

170. LiO_2 is prepared industrially by the reaction of LiOH.H2O (a)Oxidation (b)Reduction

171. _____ leads to covalent character in ionic bonding (a) Electronegative of ion (b)Polymerization of ion

172. NH_3BF_3 molecule is _____ (a)Dative covalent bond (b)covalent (c)ionic

173. Molten Sodium Chloride is also called (a)Brine (b)Electrolysis (c)Bromine

174. How many sigma and pi bond are in triple bond (a)1,2 (b)0,3 (c)2,1 (d)3,0

175. How many isomers are present in C_4H_8 (a) 6 (b)4 (c)9 (d)8

176. Hydrazine will result from the reaction of hydrazine with (a)Phenol (b)Alcohol (c)Acid (d)Aldehyde

177. Any species that contain an unparsed electron is called (a)Free radical (b)anion (c)atom

178. _____ have the highest percentage of character (a)SP (b)SP^2 (c)SP^3

179. Covalent character (a)decreases down the group (b)increase down the group (c)decreases across the period (d)decreases across the group

180. In the group VIII, the first ionization energy is (a)All of the above (b)decreases down the group (c)increase down the group (d)remain constant

181. Which of the following is the least alcohol soluble in water (a) CH_3CH_2OH (b) $CH_3CH_2CH_2OH$ (c) CH_3OH (d) $CH_3CH_2CH_2CH_2OH$

182. How many isomer has C_4H_9O (a)3 (b)4 (c)5 (d)6

183. Organic acid are reduce to _____ (a) 1° alkanol (b) Polyhydric alknole (c) 2° alknol(d) 3° alkanol

184. Disproportional reaction do not occur in which of the following halogen (a)Iodine (b)beryllium (c)flourine (d)chlorine

185. In the reaction $CH_3H_4 + H_2O \rightarrow CH_3COCH_3$ in the presence of _____(a) $H_2SO_3/HgSO_3$ (b)HCL/ $HgSO_4$ (c)$H_2SO_4/NaOH$ (d) $H_2SO_4/HgSO_4$

186. Which one undergo reduction easily. (a)As (b)I (c)Cl (d)F

187. _____ is used by athletes for firm grip (a)$MgC0_3$ (b)MgO (c)$MgCl_2$ (d) $Mg(OH)_2$

188. _____ dipole is formed from the distortion of electron cloud (a) induced (b)instantaneous (c)permanent (d)dipole

189. There are _____ possible isomers for C_4H_8 (a)5 (b)4 (c)6 (d)3

190. How many carbons are in one molecule of 2-methylpentane ? (a)5 (b)6 (c)3 (d)4

191. _____ is used for the etching of glasses (a)HF (b)KrF_2 (c) Cl_2 (d)PVC

192. A strong non-dimensional electrostatics force of attraction between positive charge ion is known as _____ (a)van der waal (b)covalent (c)ionic (d)hydrogen

193. Which type of bond will $1S^22S^22P^2$ and $1S^22S^22P^5$ form ? (a)ionic (b)covalent (c)electrovalent (d)hydrogen

194. Definition of Polarization?

195. CS_2O has which colour? (a)Pure white (b)Yellowish white (c)Orange (d)

196. Pent-1-ene to Pent-2-ene is _____ type of reaction.

197. What is the oxidation states of Xenon.

198.Write the IUPAC name of $CHCCH_2{=}COOH$

199. How many mole of oxygen react with butane in sufficient air (a) 5 moles (b)6.5 moles (c)4 moles (d)3 moles

200. The reaction between C_2H_2 and HBr is called (a)oxidation (b)substitution (c)polymerization (d)acid

201. The melting point of an aldehyde and ketone to _____

202. Isomerization of alkene occur in presence of _____

203. A pi bond is the result from the

204. 3-methylpentan-3-ol and 3-methylpentan-2-ol are example of _____ and _____ alkanols

205. The H-C-H bond angles in CH_4 is

206. Which of the following compounds is an example of halide? (a)Cl_2 (b)HCN (c)NaH (d)$AlCl_2$

207. The two clean structure of an outlined texts are (a)Therma and pheme (b)major and sub-divisions (c) Introduction and body (d)the tittle and body of the text.

208. Alkene undergo all of the following accept _____(a)substitution (b)addition (c)polymerization

209. The orbital in SP hybridization is (a) tetrahedrally (b) linearly (c) trigonally (d)horizontally

210. Compound like sliver hydrides and zinc sulphide show covalent character in ionic bonding (a) polarization of ions (b) strong force (c) weak force (d) Intermolecular force

211. Find the percentage water of crystallization of ($C_{27}H_{35}N_6O_8P$) Carbon and phosphorus (a)53.82% and 5.14% (b) 50.00% and 2.00% (c)55.82% and 5.15% (d)none of the above

212. The general formula of ALKYL is

213. These are types of isomerism except (a) Structural isomerism (b) Positional (c Dipole (d) Functional

214. What does an induced dipole mean?

215. Breaking down as larger molecule into smaller molecule of alkane to yield alkane_____?

216. How many structural isomerism are possible for C_4H_9Br (a)4 (b)2 (c)3 (d)5

217. _____ is used for etching of glasses (a)KF_2 (b)HF (c)Cl_2 (d)PlC

218. The noble gas are isolated by (a)fractional (b)electrolysis (c)radioactivity

219. Which of these group one metal oxides has an orange colorization (a)Li_2 (b)Na_2O (c)Rb_20 (d)CS_2O

220. The carbonyl group in aldehydes is (a)CHO (b) CO (c)C-O (d)C=O

221. The actual composition of molecule of the compound that is represent the exact mole of atoms is (a)gravimetric formula (b)empirical formula (c)molecular formula (d)structural formula

222. What is the mole needed in oxygen for the combustion of benzene (a)5 moles (b)6.5 moles (c)5 moles (d)6 moles

223. One of the following aliphatic aldehydes dose not react with ammonia (a)ethanal (b)methanal (c)butanal (d)acetal

224. Group VIII elements _____ (a)increase down the group (b)decrease down the group (c)remaining constant (d)all of the above

225. Hectaldehyde also has the same name as (a)ethanal (b)methanal (c) buten-2-one(d)alkanone

226. The following properties of the halogens increases on descending the group except (a)atomic radii (b)melting point (c)oxidizing ability

227. The cleavage of a covalent bond such that only one of the fragment retain both electrons from the bond is _____ (a) Heterolysis (b) Homolysis (c) Catalysis (d) Addition

228. The compounds $CH_3CH_2OCH_3$ and $CH_3OCH_2CH_2CH_3$ (a) enantiomer (b) metamers (c)conformational isomers (d)optical isomers

229. Alkanol react with Alkanoic acid to form _____

230. Reduction of organic acid gives (a)see alcohol (b)poly alcohol (c)primary alcohol (d)tertiary alcohol

231. The following are true of Beo except (a)good conductor of heat (b)high reactivity (c)high soluble in alkali solution

232. Transition metals have what type of bond between atom (a) metallic(b)ionic (c)covalent (d)dative

233. Ligands that can form more than 2 bonds with a metals are called (a) Polydentate (b) Tridentate (c) Tetradentate (d) None

234. Which of the following has the highest boiling point (a)propane (b)pentane (c)methane (d)ethane

235. The simplest formula of a compound with express in percentage composition is (a)Empirical formula (b)Molecular formula (c)Empirical (d)chemical formula

236. IUPAC name of Isopropylalcohol is _____ (a)Propan-2-ol (b)2-methylpropan-2-ol (c)2-methyl -ol (d) propan-1-ol

237. How many mole of oxygen will be needed for complete combustion of butane (a)5 (b)5 (c)6 (d)6.9

238. The electronic configuration of Bromine is _____ (a) $[Ar]3d^{10}4S^25P^5$ (b) $[Ne]\ 4f^45d^{10}5P^5$ (c) $[He]\ 3d^{16}4S^24p^3$ (d) $[Xe]\ 3d^{10}4d^45S^2$.

239. The type of hydrogen bonding formed between different molecules is _____

240. When group 1 element formed ionic hydride the hydrogen is present as _____

241. How many shells are in the nucleus of calcium

242. When 4 – methylpentene react with HCl it gives what equation?

243. The function of Lithium is _____ (a) thicker (b)thinner (c)catalyst (d)reagent

244. The general formula of alkyne family is _____ (a)C_nH_{2n+2} (b) C_nH_{2n} (c) C_nH_{2n-2} (d) C_nH_{2n-1}

245. Alkanes have _____ bond (a)single (b)double (c) triple (d) half

246. The general molecular formula of aldehyde and ketone is _____ (a) $C_nH_{2n}O$ (b) C_nH_{2n+1} (c) $C_nH_{2n}R$ (d)$C_n H_n+O$

247. The following are the example of group 1 metal halides except (a)NaCl (b)KBr (c)NaOH (d)LiF

248. The IUPAC name of Isopropyl alcohol is (a) Propan-2-ol (b) propan-1-ol (c) 2-methylpropan -1-ol (d) 2-methylpropane

249. How many sigma and pi bond present in a triple bond (a)0,3 (b)1,2 (c)3,0 (d)2,1

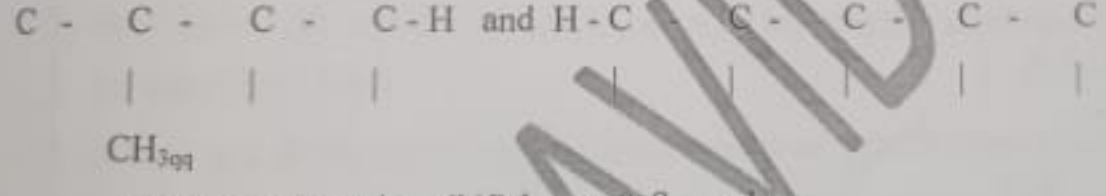
250. If F has electronegativity value of 4.0 and Lithium has electronegativity of 1.0. What type of bond is in Li-F is(a) ionic (b) covalent (c) dative

251. How many lone pair electron are present in NH_3 (a)3 (b)1 (c)2 (d)6

252. 2-methylbutan-2-ol & 2-methylbutan-1-ol are examples of (a)positional (b)geometric

253. The oxidation no of xenon in its compounds are (a)+2,+3,+5, +8(b) +2,+4,+6,+8

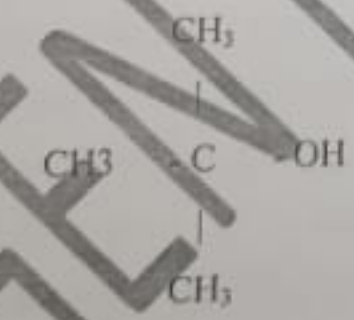
254. What is the name of these alkanol.



(a)Tertiary& tertiary (b)Primary & Secondary

255. What is the molecular formula and empirical formula if its molecular mass is 568.871

256. The electronic configuration of Bromine is (a) $Ar:4S^2 3d^{10} 4p^5$



257. The above structure is an example of _____ alkanol (a) Tertiary (b) Primary (c) Secondary (d) Polytechnic

258. An organic liquid contain 12.8% C, 2.1% H and 85.5% Br. Calculate empirical formula. (a) CHO_2 (b) CH_2Br (c) $CHBr_2$ (d) C_2H_2Br.

259. Determine the empirical formula of a compound elemental 40% C, 6072% H and 53.29% O (a) H_2CO (b) H_2OC (C) CH_2O (d) None.

260. Oxidation state of Xenon are

261. IUPAC name of Isopropyl alcohol is C_3H_8O Propan-2-ol or Isopropanol or 2-propanol.

262. In stable organic compound carbon will always form (a) 2 bonds (b) 3 bonds (c) 4 bonds (d) 1 bonds.

263. In propyne there are (a) One σ bond, two π bonds (b) Two σ bonds, four π bonds (c) Three σ bonds, two π bonds (d) none.

264. Milk of Magnesia is hydroxide of ?

265. Alkene is also known as Olefin

266. What is the general formula for Alkanone? RCOR'

267. Sp^2 is also known as Trigonal hybridization

268. Alkenes and Alkynes are Catalytically reduced to yield ____ (a) Methane (b) Alkanes (c) Alkyl (d) Ethene.

269. Group I and M element are generally referred to as ___ (a) s-Block (b) d-block (c) c-block (d) f-block

270. Hydrogen halide have five general formula of? (a) HCl (b) HX (c) HBr (d) HF

271. The following compound are polar except (a) NH_3 (b) H_2O (c) HF (d) CH_4

272. The reduction of ketone give (a) Secondary alcohol (b) Primary alcohol (c) Ketal Alcohol (d) Carboxylic acid.

273. The Number of saturated isomers of saturated Monohydric alcohols with molecular formula C4 Ha is ____ (a) 4(b) 5 (c) 3 (d) 6 (it has been solved before).

274. Group I and II element are generally referred to as ___ (a) S-Block (b) d-block (c) c-block (d) f-block

275. Any species that contain unpair electron is called? Free radicals.

276. One of the major sources of organic compound is _____ (a) Natural gas (b) Fermentation (c) Sea Water (d) Atmospheric (Natural gas, Coal tar, Petroleum).

277. The H-C-C- bond angle is ethylene is (a) 60^0 (b) 120^0 (c) 90^0 (d) 180^0

278. Which of this have highest boiling point (a) hexanone (b) butanone (c) propane

279. How many sigma and pi bond does double bond have (a) 0,3 (b) 1,1 (c) 3,0 (d) 1,2

280. Cl is 3.0, in Cl–Cl is _____ type of bond (a) ionic bond (b) covalent (c) polar covalent

281. What is the percentage of Sp hybridization (a) 20% (b) 180% (c) 90% (d) 109.5%

282. Which hybridization has the highest percentage (a) SP^3 (b) SP (c) SP^2

283. Two nitrogen atoms form a stable configuration by sharing ___ pair of election to form a covalent bond. (a) 1 (b) 2 (c) 3 (d) 4

284. Molten sodium chloride is also called ____ (a) Rock salt (b) Common salt (c) Cryotite (d) Brine

285. Which of the following elements does not belong to group I (a) Rb (b) Ra (c) Rn (d) Ru

286. The main factors that determine the order of boiling point of isoalcohol is (a) Mu (b) Solubility in nature (c) Halogen bonding (d) hydrogen bonding

287. Reaction between C_2H_2 and Hbr is called?

288. What group is Alkali metals in the periodic table (a) Group I (b) Group II (c) Group IV (d) Group O

289. CS_2O has which colour (a) pure white (b) yellows white (c) orange

290. Pi bond is formed from _____?

291. Be is used on making nozzle to fuel space craft? (a) True (b) False

292. Sp^2 has_____ sigma bond and _____ pi bond? (a) 1,2 (b) 2,1 (c) 1,1 (d) 0,1

293. Which of these is not an acid (a) HF (b) HCl (c) HBr

294. Fluorine in all its compound has an assigned oxidation number of (a) 17 (b) -1 (c) +2 (d) +6

295. What group is the electronic configuration of $1s^2 2s^2 2p^6 3s^2$ (a) II (b) III (c) IV (d) V

296.The reaction between CH_2 and Hbr is (a) Substitution (b) Oxidation (c) Addition (d) Polymerization

297. Alkane undergo the following reaction except (a) Hydrogenation (b) Combustion (c) Substitution (d) Instantaneous dipole

298. Which of the following is an ionic compound (a) Br_2 (b) CCl_4 (c) HCl (d) AlF_3

299. Which of the following is not a secondary alcohol (a) 3-methylpentan-2-ol (b) 2-methylpentan–3-ol (c) 3–methylpentan– 3-ol (d) Hexan-3-ol

300. How many carbon atom are present in 1 molecule of 2–methylpentane (a) 5 (b) 6 (c) 4 (d) 3

301. Which of the following could exhibit optical isomers. (a) C_2H_6 (b) CH_2ClF (c) $CH_3[CCl]BrCHO$ (d) C_5H_{12}

302. The triple bond consist of _____ bonds (a) Three pi (b) Two sigma and one pi (c) One sigma and one pi (d) One sigma and two pi

303. A secondary alkanol reacts with acidified $KMnO_4$ solution to form a _____ (a) Alkene (b) Alkanone (c) Alkanoic acid (d) Alkanal

304. Trihydric phenol contains _____ Molecule of hydroxil group (a) Four (b) Three (c) four (d) No idea

305. Ketones can be prepared in one step from which of the following processes (a) Reaction of acid halide with alcohol (b) Hydrolysis of esters (c) Oxidation of Secondary alcohol (d) Oxidation of primary alcohol

306. What type of Reaction is $CH_3CH_3 + Cl_2 \rightarrow CH_3CH_2Cl + HCl$? (a) Saponification (b) An esterification (c) Substitution (d) Addition

307. Which of the following could exhibit optical isomer (a) COA_{12} (b) CH_2ClF (c) C_2H_6 (d) $CH_3CCl(Br)CHO$

308. Butanoic acid & Ethyl ethanoate are isomers? False/True

309. What is the formula for halides?

310. Propanal and Propanone are example of _____ isomer (a) Optical (b) geometric (d) function (d) Positional

311. What is the formula for alkyl halide (a) MX (b) MX_2 (c) MX_3 (d) M_2X_2

312. Which of the following does not form satiated formula of alkanal (a) $C_nH_{2n+2}OH$ (b) $C_nH_{2n+1}OH$ (c) $C_nH_{2n+2}O$

313. Which of the following has the highest boiling point? (a) propane (b) 2-hexane (c) 2-pentanone (d) Butanone.

314. Main factor that determine the isomeric order of boiling point is alcohol loss? (a) Molecular weight (b) Solubility in water (c) Halogen boiling point (d) Hydrogen boiling point

315. The difference in the properties of isomers is due to _____

316. When ketone react with Grignard reagent and hydrolyses, the product is _____

317. Which action best account for the solubility of Aldehyde?

318. The reduction of organic acid is (a) Primary alcohol (b) Secondary alcohol (c) Tertiary alcohol (d) Polyhydric.

319. Reduction of aldehyde gives (a) Primary alcohol (b) Secondary alcohol (c) Tertiary alcohol (d) None.

320. Reaction between C_2H_2 and HBr is _____ (a) Polymerization (b) Addition (c) Substitution (d) Oxidation

321. Ketone is reduced to _____ (a) Tertiary alcohol (b) Secondary alcohol (c) Primary Alcohol (d) Monohydric alcohol

322. Which of the following is not classes of alcohol (a) Monohydric (b) Dihydric (c) Trihydric (d) Tetrahydric

323. Alkene are generally _____ hybridization (a) SP^3 (b) SP^2 (c) SP (d) S

324. Most reactive metal in periodic table is (a) Ca (b) Li (c) Fr (d) Na

325. Which of the following is an ionic compound (a) AlF_3 (b) CCl_4 (c) HCl (d) Br_2

326. How many electrons are in the outmost shell as Mg (a) one (b) three (c) four (d) two

327. A compound containing C, H and O is found in contain 32 percent carbon and 4 percent hydrogen. its molecular weight is 150. What is molecular formula (a) $C_4H_6O_4$ (b) $C_2H_4O_4$ (c) $C_4H_6O_6$ (d) $C_2H_3O_3$

328. Polar molecules such as HCl have _____ dipole molecules (a) Temporary (b) Instantaneous (c) induced (d) Permanent.

329. The element with configuration is $1S^22S^22P^23S^2$ belong to _____ group (a) 3 (b) 1 (c) 2 (d) 4

330. Alcohol have higher boiling point that is expected from their molecular weight _____

331. The IUPAC name of isopropyl alcholo is (a) Propan-1-ol (b) Propan-2-ol (c) 2–methylpropan-2-ol (d) 2–methylpropan-2-ol.

332. Polar Molecule such as HCl have ____ dipoles molecule. (a) Temporary (b) Instanteneous (c) Induced (d) Permanent

333. What IUPAC name of Isopropyl lacohol

334. _____ are carbonyl group

335. Alkenes are generally ____ (a) SP^2 hybridized (b) SP hybridized (c) SP hybridized

336. Group II is also known as (a) Alkali (b) Halogen (c) Alkaline earth metal

337. One of these is not an acid (a0 HI (b) HCl (c) HBr (d) HF

338. Which of these react to give water and Alkali (a) I (b) Cl (c) Br (d) F

339. Butan-1-ene and Butan-2-ol are example of _____ (a) Positional isomerism (b) Chain isomerism (c) Functional group Isomerism

340. Group II of the periodic table is also known as (a) Alkali metals (b) Halogen (c) Alkaline earth metal (d0 Noble gas

341. How many structure isomer is present in C_4H_9OH (a) 6 (b) 4 (c) 5 (d) 3

342. In group VIII the first Ionization energy (a) Remain constant (b) All of the above (c) decreased down the group (d) increased down the group

343. Aldehydes and Ketones oxidized to give _____ and _____

344. Another name for Alkene is (a) Olefin (b) Paraffin (c) ionic (d) Covalant

345. Chemical bonds that involves Transfer of one or more electrons is called (a) Covalant (b) Ionic (c) Dative (d) Structural formula

346. How many mole of oxygen will be needed for complete combustion of butane.(a) 5 (b) 5 (c) 6 (d) 0.5

347. _____ is an example of a molecular with a triple bond (a) N_2 (b) CO_3 (c) C_2H_4 (d) NH_3

348. HF is a weak acid because the H-F bond is very ___ (a) Strong (b) Weak (c) Polar (d) All of the above

349. Molten Sodium Chloride is also called (a) Common salt (b) Crystite (c) Brimp (d) Rock salt

350. The group 7 element form halide ions by (a) None of the above (b) Accepting an electron (c) Donating an electron (d) Donating lone pair of election.