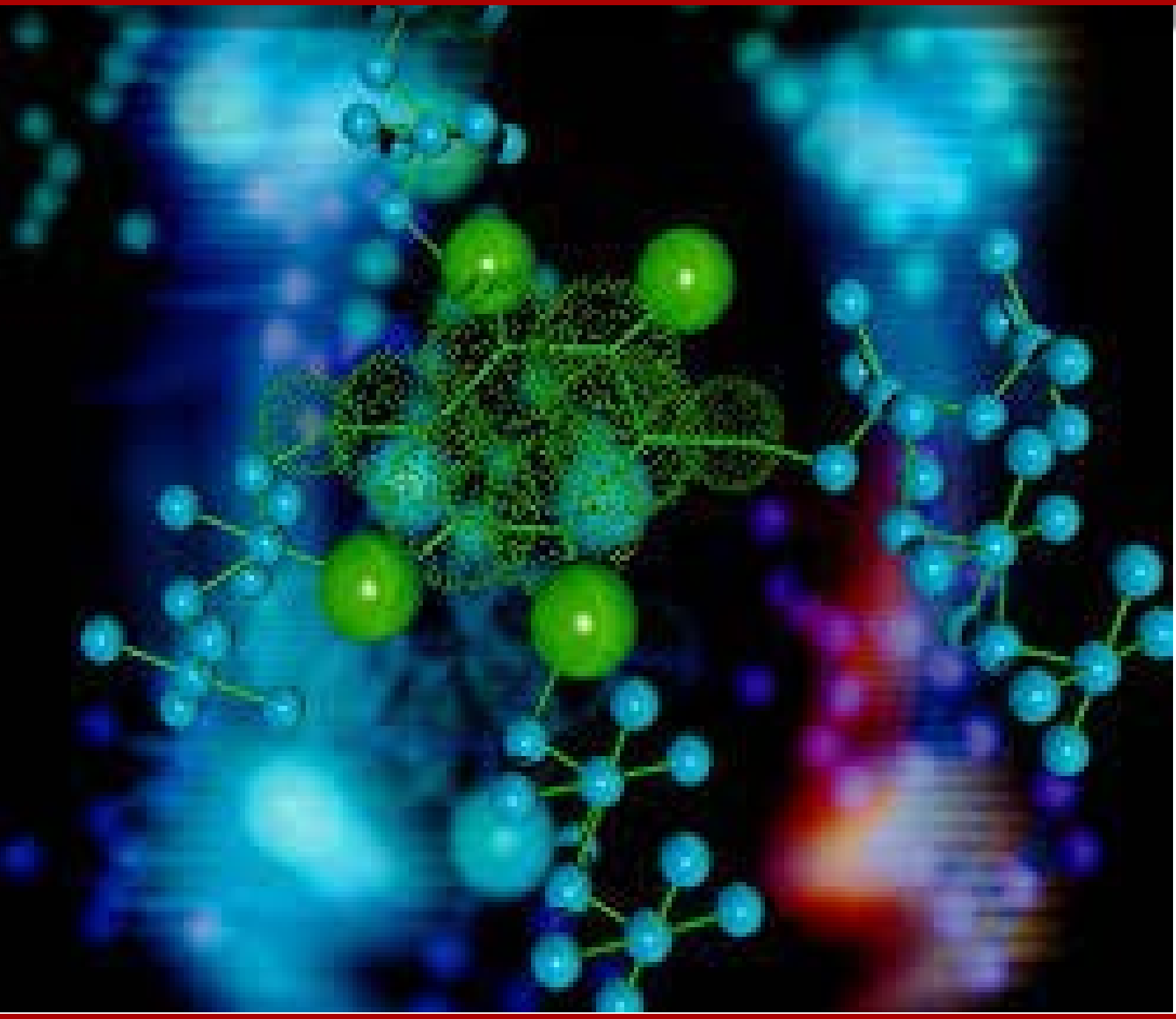
CHM 121

SCANNED PAST QUESTIONS, FUTMINNA



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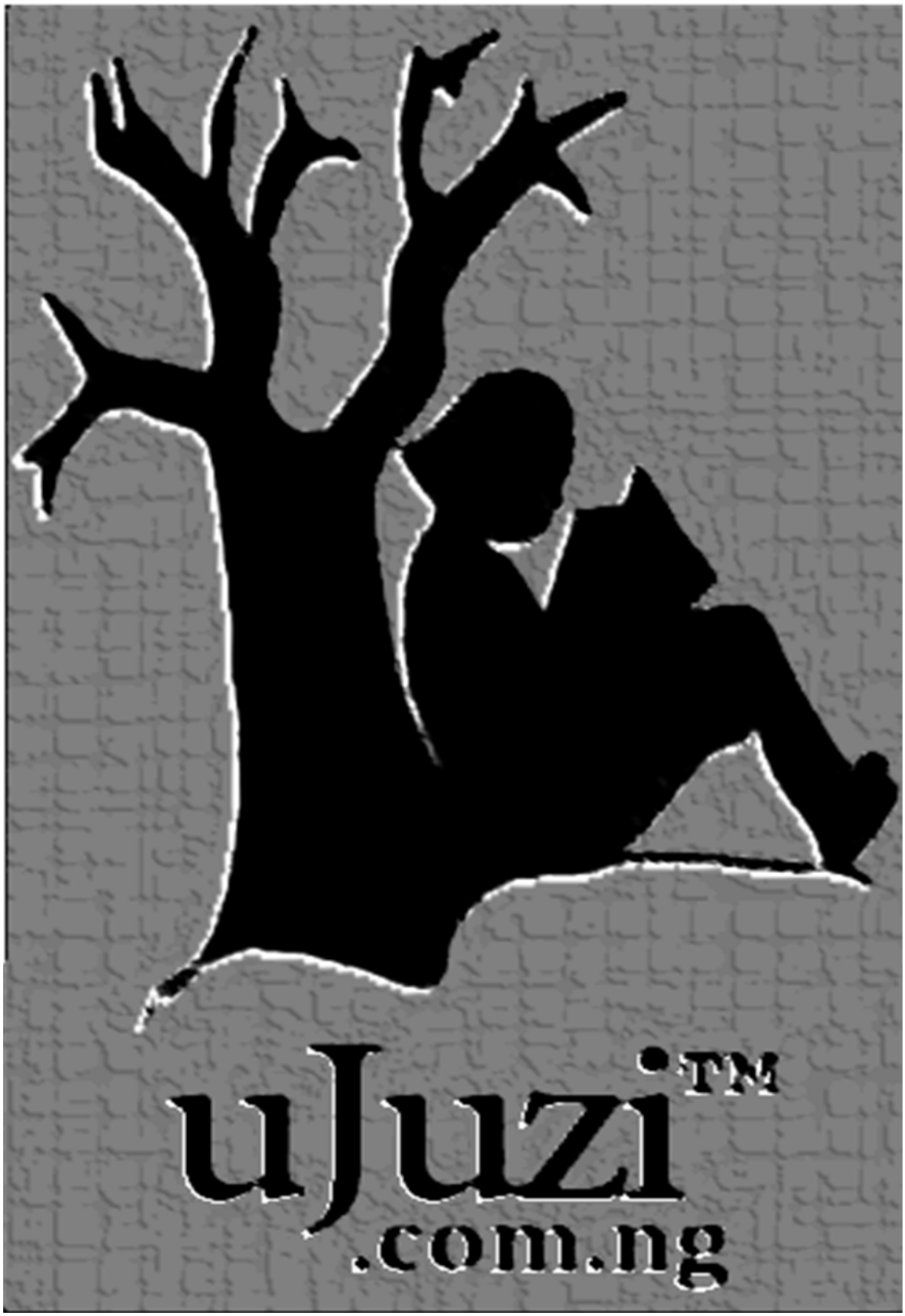
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Signed

Nelly Tomilola

Content Developer

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P.S
uJuzi is Pronounced “You-Ju-Zi” and its Swahili for Knowledge

DEPARTMENT OF CHEMISTRY
FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
SECOND SEMESTER CONTINUOUS ASSESSMENT 2008/2009 SESSION

COURSE CODE: CHM 121
COURSE TITLE: ORGANIC CHEMSITRY 1
INSTRUCTIONS: ANSWER ALL QUESTION ON OMR SHEET
OPTION A

1. The basis of classifying Chemistry into organic and inorganic chemistry is based on the concept of
(a) The origin of man (b) The Darwinian Theory
(c) The Dalton's theory of matter (d) The origin of matter

2. The Chemistry that debunked the vital force theory of organic compounds was called
(a) Ernest Rutherford (b) Friedrich Wohler
(c) John Dalton (d) Niels Bohr

3. The chemistry of compounds in which carbon is bounded to metallic elements is called
(a) Organic Chemistry (b) Natural products Chemistry
(c) Organometallic Chemistry (d) Inorganic Chemistry

For Questions 4-7 shade A if (I) and (II) are correct. B if (II) and (IV) are correct; C, If (I) and (II) are correct and D if only (IV) is correct

4. Generally for an element to catenate,
(i) Its valency should be at least two
(ii) Its valency should be at least four
(iii) It should be capable to forming fairly strong bonds
(iv) It should be able to form multiple bonds

5. Isomeric compounds always
(i) Have different chemical properties
(ii) Have different physical properties
(iii) Have different chemical and physical properties
(iv) Have the same or different chemical properties

6. In a homologous series
(iv) the members conform to a general molecular mass
(ii) the members are prepared using the same general methods
(iii) the members show similar physical properties
(iv) the members show similar chemical properties

7. In hererocyclic compounds
(iv) At least one atom in the ring is an atom other than carbon
(ii) The bonds between the carbon atom and the hetero atom are always single
(iii) All the atoms in the ring are carbon and hydrogen only
(i) There exists a mixture of both coyalent and electrovalent bonding

8. In electrophilic aromatic substitution an electrophile substitute for
(a) a bond (b) a carbon atom
(c) a hydrogen atom (d) an electron

9. The reagent suitable for carrying out nitration of benzene
(a) H_2SO_4/H_2CO_3 (b) Con.$H_2SO_4/FeBr_3$
(c) HNO_3/H_2SO_4 (d) $HNO_3/AICI_3$

10. The Friedel-Craft acylation of Benzene with propanoyl bromide in the presence of Aluminium trichloride yields(s)
(a) Benzenepropanone (b) 2-Benzenepropanone
(c) 1-pheny-1-propanone (d) 2-phenyl-2-propanone

11. .....has the highest boiling point among the following
(a) ethane (b) ethyne (c) ethylchloride (d) ethanol

12. The reaction of alcohol with carboxylic acid anhydride yield
(a) alkylhalide (b) esters (c) ethers
(d) carbonyl compounds

13. Addition of butanone to 2- mathyipropylmanesium bromide in the present of Et_2/ H_3O^+ yield a..... alcohol
(A) Primary
(b) Secondary
(c) Tertiary
(d) Quartenary

14. The product of complete of 2- methylpropan – 1 – ol in the present of an acidified KMnO4 is
(a) 2 – methylproanal
(b) 2 – methyl propanone
(c) 2 – methylpropanoyl
(d) 2-methylpropanoic

15. The product of reaction between ethanol and methyl imagnesium bromide is-------
(a) Propan-ol
(b) Propan-2-ol
(C) Propane
(d) Propanal

16. One of these is NOT a unique features of aromatic rings
(a) Unsaturated
(b) Cyclic compound
(c) Contain delocalized pielectron system
(d) Cyclic cloud of electrons contain 4n+2.

17. The reaction of ethanol with H_2SO_4/EtOH yield (s)
(a) Ethylethanoate
(b) Ethylothene
(c) Ethoxyethane
(d) Ethanol

18. In the exiotion of a primary alcohol to an aldehyde, any of the following compounds can be employed EXCEPT.
(a) $LiAlH_4$
(b) DIl.$kmNo_3$

(c) dil.HNO_3
(d) H+/CrO_3

19. The major constituent of petroleum and natural gas which are the resources that furnish large percentage of our energy are
(a) Methane and sulphur
(b) Ammonia and coal tar
(c) The hydrogen
(d) The ethynes and the aromatic compounds.

20. The generation molecular formular of cyloalkanes is given as
(a) C_aH_{2n+1}
(b) C_2H_{2n+2}
(c) C_2H_{2n-2}
(d) C_nH_{2n}

21. The IUPAO name of the organic compound with the structural formula $CH_3\,C(CH_3)_2(CH_2)_2CH_3$
(a) 4,4-dimethylpantanaes
(b) 2,2,dimethylpantane
(C) 3,2-dimethylpantane
(d) 2,2-dimethylpentane.

22. The chemical behavior of a carbon atom is characterized by the excitation of the atom leading to
(a) The impairing of the 2s orbital electrons that is promoted to the $2p_z$
(b) The impairing of the $2p_z$ electron to the $2p_z$
(c) The formation of a ple bond.
(d) The pertalization of the atom

23. The orbital obtained as a result of the hybridization of orbital are
(a) Equivalent and directional.
(b) Directional but not equivalent
(c) Greater than the orbital of the atoms involved.
(d) Tetrahedral in nature

24. The possible isomers that conform to the molecular C_5H_{12} are
(a) 2
(b) 4
(c) 3
(d) 5

25. The reaction between alkenes and the volume of oxygen that is reqired for the complete combustion of the alkane is given as
(a) (x+ y/4)
(b) (x+ y/4) cm^3
(c) (x+ y/2)
(d) (x+ y)cm^3

26. The major product of the reaction of ethanol with mechanic acid in the present of conc. H_2SO_4 is
(a) Methylmethanoate
(b) Ethylenoate
(c) Ethylmethanoate

(d) Ethyethane

27. The reaction of methylmagensium bromide with CH_3CN/H_2O give (s)
(a) Propan-l-ol
(b) Propan-2-ol
(c) Propanal
(d) Propan-2-ones

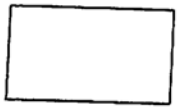
28. The organic product of the reaction C_4H_6+Na in liquid NH3 is
(a) Cis-but-2-one
(b) Trans-buy-2-ene
(c) But-2-ene
(d) Butane

29. Benzene undergoes electrophonic substitution to yield------product(s)
(a) one
(b) two
(c) three
(d) four

30. The products of reaction of benzene with chlorine at room temperature yield(s)
(a) Chlorinephamyl
(b) Benzylchloride
(c) Chlorobenzene
(d) No reactions

31. Which of these compounds has the highest density?
(a) 2-Chloro propane.
(b) 2-Chloro-2-methyl propane
(c) 2-Promo propane
(d) 2-Bromo-2-methyl propane

Study the scheme of transformations below and use to answer question 32-35.Give structural formulae of compounds R,S,T and U.



32. Compound R is;
(a) $CH_3\,CHCHCH\,(CH3)_2$-^{6}
(b) $C\,(CH_3)_2C\,(CH_3)_2$
(C) $CH_2CHC\,(CH_3)_3$
(d) $CH_2\,C\,(CH_3)\,CH\,(CH_3)_2$

33. Compound S is;
(a) $CH_3\,C\,(Cl)\,(CH_3)\,CH\,(CH_3)_2$
(b) $CCl\,(CH_3)_2CH\,(CH_3)_2$

(c) $CH_2(Cl)CH(CH_3)CH(CH_3)$
(d) $CH_3CH(Cl)CH_2CH(CH_3)_2$

34. Compound T is;
(a) H_CCO
(b) CH_3COCH_3
(c) $CH_3CH_2COCH_3$
(d) $HCOCH_3$

35. Compound U is;
(a) CH_3COCH_3
(b) $CH_3COCH_2CH_3$
(c) $CH_3CCCH(CH_3)_2$
(d) $CH(CH_3)_2COCH(CH_3)_2$

36. Which of the following alkenes can exist as a cis-trans isomer?
(a) $CH_2CHCH_2CH_3$
(b) $CH_3CHCHCH_3$
(c) $CH_2C(CH_3)_C$
(d) $CH_3CH_2CHCHCl$.

37. The I.U.P.A.C. name for $(CH_3)_2CHOCH(CH_3)_2$ is,
(a) Dipropalether
(b) 1,1-Di (ethyl methyl) ether.
(c) 1,1,1,1-Tetrauethyl ethyl ether
(d) 2,3-Dimethylbutylether

38. Which of the following alkenes can exist as a cis-trans isomer?
(a) $CH_2C(CH_3)_2$
(b) $CH_3CH_2CHCHCl$
(c) $CH_2CHCH_2CH_2OH$
(d) $CH_3CHCHCH_3$

39. The structural formula for a tertiary alcohol having the molecular formular c_4H_{10} is;
(a) $CH_3CH_2CH(OH)CH_3$
(b) $CH_3C(OH)CH_3CH_3$
(c) CH_3CHCH_2OH
(d) $CH_2(OH)CH_3CH_3$

40. Which of the following compounds has the lowest melting point?
(a) Butan-2-ol
(b) 2-Methyl propanoyl
(c) Butane
(d) 2-Methyl propane 2-ol

41. The compound below is a----------

(a) 1^0 alcohol

(b) 2^0 alcohol
(c) 3^0 alcohol
(d) Phenyl alcohol

42. Propanoyl has a higher boiling point than ethyl methyl ether because it;
(a) Has no hydrogen attached to the oxygen atom.
(b) Hass a higher molecular weight
(c) Has hydrogen atom attached to the oxygen
(d) Is an alcohol derivatives

43. The I.UP.A.C. name of C (Cl) $CHCH_2CH$ $(Br)_4CH_2$ is;
(a) 4-Bromo-1-chloropentane
(b) 4-Bromo-1-chloropentane
(c) 4-Bromo-1-chloro cylopentane
(d) 4-Bromo-1-chloro cyclopentane

44. How many possible isomers can we have for C_7H_{16}?
(a) 5
(b) 18
(c) 35
(d) 9

45. The I.U.P.A.C. name for CH_3C (CH_3) CHCH (OH) CH_3 IS;
(a) 4-Methyl pent3-en-2-ol
(b) 2-Methyl pent-2-en-4-ol
(c) 2-Methyl pent-4-ol-2-ene
(d)) 4-Methyl pent-20l03ene

46. What is the common name of $CHOOCH_3$
(a) Methyl methanoate
(b) Methyl formate
(c) Ethyl formate
(d) Ethyl methanoatea

47. The I.U.PA.C. name for $CH_3CHCH(I)COOH$
(a) 4-chloro-3-methyl-2-iodopentanoic acid
(b) 4-vhloro-2-methyl-3-methylpentanoic acid
(c) 2-chloro-3-methyl-4-vhloropentanoic acid
(d) 2-chloro-3-methyl-4-iodopentanoic acid

48. Pentanal can be converted to pentane in the present of----- and-------
(a) Zn /Hg, conic HCI
(b) Zn /Hg, dil. HCI
(c) Zn,conc.HCl
(d) Zn, dil. HCI

49. ----------Is an example of a nucleophile
(a) SH
(b) Br
(c) Na
(d) H^-

50 Addition of ethyl magnesium chloride to propane in the present of diethyl ether followed by acid hydrolysis yields--------- as a major product

(a) 2-methylbutanol
(b) 2-mthyibutan-2-ol
(c) 2-ethylpropanol
(d) 2-ethylpropan-2-ol

51. Which of the following is an example of tertiary alcohol?

(a) CH_3CH_2OH
(b) $CH_3CH_2OHCH_3$
(C) $(CH_3)COH$
(d) $(CH_3)_4C$

52. How many position isomers are possible in the compound $CH_3CH_2CH_2CH_2CCH_2$?

(a) 1
(b) 2
(c) 3
(d) 4

53. Esther are formed by the reaction of

(a) Organic acids/ alcohols only
(b) Organic/inorganic acids with alcohols only
(c) Inorganic acids and alcohols only
(d) Acids and inorganic bases only

54. The derived name of the structure $CH_3CH_2CH_2OH$ is

(a) Propane
(b) Propan-1-ol
(c) Ethylcarbinol
(d) Carbinol

55. When 2-methlbutanoicacid is reacted with a bicarbonate, the major product is

(a) $CH_3CH_2CH_3COOOH_3$
(b) $CH_3CH_2\ CH(CH_3)COO$
(c) CO_2
(d) H_2O

56. ---------is an example of a polar solvent.s

(a) $H_2{}^O$
(b) CCl_4
©$CHCl_3$
(d) $Et_2{}^O$

57. Frankly speaking, learning a programming language is essentially learning about.....

(a) Codes and design
(b) Specification and documentation
(c) Syntax and semantics
(d) Semantics and its meaning

58. Which of the following is not an example of data structure?

(a) array
(b) record
(c) pointer
(d) string

59. ..... is achieved through concatenation
(a) string
(b) record
(c) field
(d) array

60. .....cannot be determined at compile-time
(a) dynamic allocation
(b) stack allocation
(c) static allocation
(d) heap and static allocation

61. Insertion and retrieval of data to and fro in stacking is known as
(a) Popping and pushing
(b) Popping
(c) pushing
(d) pushing and popping

62. The acronym OOL means
(a) object oriented location
(b) object oriented language
(c) object oriented links
(d) object orientation language

63. Which phase of a compiler produces unexpected and of file
(a) semantic analysis
(b) lexical analysis
(c) syntax analysis
(d) code generating and optimization

64. The following are requirements determined under program design except
(a) outputs, inputs, and logical structures
(b) pscudocodc and top-down design
(c) bottom-up and top-down design
(d) flowcharts and logic structure

65. .....is used to provide a standard for describing data in window application
(a) XML
(b) DIITML
(c) WML
(d) XIITML

66. Instruction: choose "A" if I and II are correct
"B" if II and IV are correct
"C" if I and IV are correct
"D" if IV is correct

"E" if none is correct

In question 67 to 69 below

67. Which of following is true about acid-base titration?
I pH of the solution is more than 7 on completion of the
II salt and water only are formed during the titration
III volumes of acid alkali used are equal
IV concentration of acid and alkali need not be equal

68. $C_2H_4O_2$ is an organic compound
I It is tetra basic
II The compound is a weak acid
III It is monobasic
IV It is dibasic

69. Which of the following is/are condition (s) under which reactions may be used in micrometric analysis?
I the reaction must be practically reversible
II the reaction must occur slowly but instantaneous practically
III the end point of the reaction must be easily noticeable
IV the mass of reacting specie are obtained directly

70. Tetrameter may be use to
I Standardize
II Monitor
III Produce hard water
IV Deer mines Na OH concentration in a mixture

71. Which of he following is not correct?
(a) Burettes and pipettes are used in titrimetric analysis
(b) Phenolphthalein and methyl orange are acid-base indicators
(c) Titrimetry is any method which volume and mass are the signals
(d) Titrant is the reagent added to a solution containing the analysis

72. Which of is true about equivalent point in titrimetry?
(a) A point where the addition of titrant is stopped
(b) A point at which indicator color changed completely
(c) A point at which the volume of titrant has been exhausted
(d) A Point where stoichiometric amounts of analyte and titrant reacted

73. Find the mass of pure sodiumthisulphate ($Na_2S_2O_3$) to prepare 0.05mol.dm-^{3} of solution [Na =23. S =32, O =16]
(a) 0.05g
(b) 15.8g
(c) 158g
(d) 7.9g

74. How many hydrogen loins are present in 0.1moldm-^{3} solution of H_2SO_4? [NA =6.02 x 10^{23}]
(a) 6.02 x 10^{24}
(b) 6.02 x10^{23}
(c) 6.02 x10_2

(d) 1.20×10^{23}

75. What volume of distilled water should be added to $25cm^{-3}$ sodium hydrxide solution to make a solution of $0.05moldm^{-3}$

(a) $1cm^3$
(b) $25cm^3$
(c) $100cm^3$
(d) $125cm^3$

76. Which of the following is NOT true of acid-base titration?
(a) Salt and water only are formed.
(b) The concentration of the acid and the base need not be equal
(c) The end point must be easily noticeable.
(d) The pH of the solution at the end point is less than

77. Titrimetry is commonly used to
(a) Produce hard wear
(b) Monitor rates of reaction
(c) Standardize solutions
(d) Purify solutions

78. Which of the following is INCORRECT?
(a) Titrimetry is an any method in which volume and mass are the signals
(b) Titrant is the recent added to the solution containing the analyte
(c) Barrettes and pipettes and commonly used glassware
(d) Phenolphthalein and methyl orange are acid-base indicators

79, When caustic soda drops on the skin in a laboratory, the following should ll administered immediately
(a) dill H_CSO_4
(b) Conc H_2SO_4
(c) Water
(d) Soda ash

80. Correct burette read as is taken from
(a) The upper meniscus
(b) The lower meniscus
(c) The middle meniscus
(d) After the meniscus

81. The following titre values(in cm^3) were obtained during an experiment; 18.20.18.10,ands 18.15 what is the average titre value?
(a) 13.10
(b) 18.15
(C) 18.20
(d 18.30

82. The structural formula for a tertiary alcohol having the molecular formula C_4H_{10} is likely;
(a) $CH_3CH_2CH_2CH_2OH$
(b) $CH_2(OH)\ CH\ (CH_3)\ (CH_3)$

(c) $CH_3CH_2CH(OH)\ CH_3$
(d) $CH_3C\ (OH)CH_3CH_3$

83. Br_2/CCl_4 can be decolorized by all, EXCEPT;
(a) But-2enol
(b) Butan-3-ol
(c) But-2-yne
(d) But-3-enol

84. What is the correct name of the compound shown below?

(a) 3-Chloro-1,5-dinitrobenzene
(b) 1-Chloro-3.5- dinitrobenzene
(c) 3,5-Dinitro-1-chlorobenzene
(d) 5-Chloro-1,3- dinitrobenzene

85. Which of the compound would be most reactive ring chlorination?
(a) Benzene
(b) Phenol
(c) Methyl benzene
(d) Acctyl benzene

86. Reactions involving an aromatic nucleus are usually initiated by which one of the following reagents?
(a) Halogens
(b) Electrophiles
(c) Nucleophiles
(d) Concentrated acids

87. Which of the carbon atom in the compound below is SP^2 $H_2CC\ (CH_3)\ CH_2C(Cl)\ HCCH$
(a) Carbon 1 and 2
(b) Carbons 2 and 3
(c) Carbons 4and 5
(d) Carbons 5 and 6

88. What major product would be formed from acid-catalyzed hydration of 2-methyl butane?
(a) 2-Methylbutan-2ol
(b) 2-Methyl butyl hydrogen sulphate
(c) 2-Methyl butanol
(d) 2-Methyi butane

89. $100cm^2$ of a gaseous hydrocarbon S were mixed with an excess of oxygen and an electric spark passed. There was an explosion, $350cm^3$ of the oxygen had reacted and $200cm^3$ of carbon (IV) oxide had been formed when the mixture had cooed to 100m temperature. What is the molecular formula of compound S?
(a) CH_4

(b) C_2H_6
(c) C_3H_8
(d) C_4H_{10}

90. All are non-organic compounds, EXCEPT;
(a) Carbon dioxide
(b) Carbon tetrachloride
(c) Carbon monoxide
(d) Carbon trisilicate

91. Fire extinguisher is a necessity in every chemical laboratory
(a) TRUE
(b) FALSE

92. When caustic soda drops on the skin, it can be neutralized by H_2SO_4
(a) TRUE
(b) FALSE

93. Ethanoic acid is a strong acid
(a) TRUE
(b) FALSE

94. Reporting the source of error after practical is not always necessary
(a) TRUE
(b) FALSE

95. Aims and objectives of a given practical refer to the same thing
(a) TRUE
(b) FALSE

96. A laboratory can survive without chemicals but not without water
(a) TRUE
(b) FALSE

97. Always add acid to water and not water to acid
(a) TRUE
(b) FALSE

98. Do not wash chemical burns with water
(a) TRUE
(b) FALSE

99. When deles acid is splashed on one's skin, wash dilute NaOH
(a) TRUE
(b) FALSE

100. Correct burette reading is taken from the lower meniscus
(a) TRUE
(b) FALSE

101. You can work conveniently in a chemical laboratory without a laboratory coat
(a) TRUE
(b) FALSE

102. X is a solution containing 0.25mol.dm^3 potassium hydroxide. Calculate the mass of the compound in 125cm3 of the solution.
(a) 14.3g
(b) 1.75g
(c) 12.5g
(d) 125g

103. The following titre values, in cm^3, were obtained during an experiment; 18.20, 18.10 and 18.15. what is the average titre value?
(a) 18.15
(b) 18.20
(c) 18.10
(d) 18.30

104. What volume of distilled water should be added 125^3 of 0.25 moldm-^{3} sodium hydroxide solution in order to produce a solution of0.05 moldm-^{3}
(a) 25cm^3
(b) 1 dm^3
(c) 125cm^3
(d) 100cm^3

105. The end point of titration may not be equivalence point due to the following except
(a) Side reactions
(b) The fact that the indication themselves are weak acids and bases
(c) Accuracy
(d) Error of the analst

106. Which of the following practice is wrong in volumetric analysis
(a) Use of clean and dried glass wares
(b) Rinsing the burette with the solution to put in it
(c) Rinsing the conical flask with the alkali to be pipettes into it
(d) Rinsing the pipette with the solution to be pipe petted

107. Calculate the number of hydrogen ions presenting moldm-^{3} solution of sulphuric acid (H_2SO_4) – [$N_A = 6.0 X10^{23}$
(a) 2.0×10^{23}
(b) 1.2×10^{23}
(c) 6.0×10^{24}
(d) 6.0×10^{22}

108. 20cm^3 of 0.10moidm-^{3} sodium hydroxide solution required 25.0cm of hydrochloric acid for complete neutralization. Calculate the concentration the acid solution.
(a) 2.0mo.dm^3

(b) $0.10 mol.dm^3$
(c) $0.08 mol.dm^3$
(d) $2.5 mol.dm^3$

109. Calculate the molar mass of an acid, given that $100cm^3$ of the solution contained 0.485g of the acid and its molar concentration is $0.05 mol.dm^3$
(a) $242.5\ gmol^{-1}$
(b) $97\ gmol^{-1}$
(c) $0.024\ gnol^{-1}$
(d) $48.5\ gmol^{-1}$

110. In a titration involving nitric acid (in the burette) and potassium hydroxide, the pH of the mixture in the titration flask just before the end point will be
(a) Greater than 7
(b) Less than 7
(c) Just 7
(d) Zero

111. 1g of a substance "Y" was heated in an oven. The weight reduced by 20%. What is the equivalent of this reduction in grams?
(a) 8.0g
(b) 2.0g
(c) 0.2g
(d) 0.8g

112. Which of the following is not needed in a chemical laboratory?
(a) First aid box
(b) Slippers
(c) Protective glasses
(d) Wash bottle

113. PH can best be defined as
(a) $-\log_{10}[H^+]$
(b) $-\log_{10}[OH]$
(c) $-\log_{10}[OH^-]$
(d) $-\log_{10}[H]$

114. Which of those acts has the highest boiling point?
(a) Propanoyl
(b) Butanoic acid
(c) Pentanoic acid
(d) Hexanoic acid

115. .....is an example of an electrophile
(a) Cr
(b) H
(c) OH

(d) Na^+

116. Which of these compounds is most soluble in H_2O?
(a) Ethanal
(b) Bunzanal
(c) Haxanal
(d) Benzanal

117. All have a pleasant odour ECEPT
(a) Ethanal
(b) Benzanal
(c) Propanone
(d) Butanone

118. .....form along intermolecular H-bonds
(a) Alkanes
(b) Alkanals
(c) Alkanones
(d) Alkohols

119. Decarboxylation of sodium ethanoate will give rise to
(a) Methane
(b) Bethane
(C) Methanoic acid
(d) Ethanoic acid

120. Which of those compounds is most acidic?
(a) Bensoic acid
(b) Benzanal
(c) Benzyl alcohol
(d) Phenol

121. Slow decolourisation of acidified potassium dichromate from orange to green by an known compound X suggests that X is
(a) A carbonyl compound
(b) A ketone
(c) An aidehyde
(d) An acid

122. Which of the following compounds has the highest boiling point?
(a) Butanone
(b) Butanal
(c) Butane
(d) Butane

123. Carbonal compound most often undego..... reactions
(a) Electrophilic addition
(b) Nucleophillc substitution
(c) Electrophillc substitution
(d) Nucleophilc edition

124. ..... involves a number to steps in which one free radical is used up, while another one is generated
(a) Initiation
(b) Propagation
(c) Termination
(d) Chain reaction

125. $20cm^3$ of CH and are reacted together: the reaction mixture was allowed to cool to room temperature. What is the volume of residual gas
(a) $10cm^3$
(b) $25cm^3$
(c) $20cm^3$
(d) $40cm^3$

126. Ozonolysisof cyclopean 1, 3, 5-treneyield(s).... Products
(a) 1
(b) 2
(c) 3
(d) 4

127. ----------is an example of a eletropile
(a) -SH
(b) Br
(c) Na^+
(d) H^+

128. ---------- are not easily oxidized
(a) primary alcohols
(b) Secondary alcohols
(c) Tertiary alcohols
(d) Alkanas

129. The hydration of propane to propanone is catalyses by----
(a) $HgSO_4$
(b) $Con.H_2SO_4$
© $HgSO_4/Con.H_2SO_4$
(d) $HgSO_4/Con.HNO_3$

130. The percentage of oxygen in one mole of water is
(a) 96.9%
(b) 94.1%
(c) 88.9%
(d) 44.0%

131. What volume of $CO_{(g)}$ is required to react completely with 3.60g of $Fe_{(s)}$ at S.T.P in the reaction $FeO_{(s)} + Co_g \longrightarrow Fe_{(s)} + CO_{2(g)}$
(a) $0.112dm^3$
(b) $1.12dm^3$
(c) $11.1dm^3$
(d) $22.4dm^3$

132. Calculate the mass of Fe formed by the lete of $5.6dm^3$ of he solution required 24cm of a $0.1moldm^{-3}$ HNO_3acid for complete neutralization using orange indicator. What is the percentage purity of the NaOH sample?

(a) 2.4%
(b) 9.8%
(c) 39
(d) 79.6%

133. How many moles of NaOH of water of crystallization in

(a) 0.006moles
(b) 0.06moles
(c) 66
(d) 50

134. Calculate the percentage of water of crystallization in

(a) 3.6%
(b) 72%
(c) 36%
(d) 72%

135. What is the amount of NaOH in a $50cm^{-3}$ solution?

(a) 0.2g
(b) 2.0g
(c) 20.2g
(d) 40.0g

136. Which of the following enhances safety in every conical laboratory?

(a) Tables
(b) Glassware
(c) Reagents
(d) Fire extinguisher

137. What is the mass of 3.5 moles of oxygen molecules?

(a) 14g
(b) 28g
(c) 56g
(d) 112g

138. Calculate the number of moles of glucose required to prepare $250.00cm^3$ of 1.10 $moldm^{-3}$ solution of glucose

(a) 1.0 moles
(b) 0.50 moles
(c) 0.25moles
(d) 0.125 moles

139. What is the concentration (in gdm^{-3}) of a solution containing 8.0g NaOH in $500cm^3$ of solution

(a) 4.0
(b) 8.0
(c) 16.0
(d) 32.0

140. $25..0cm^3$ of 0.1 moldm-^{3} NaOH solution required $21.5cm^3$ ethnic acid for complete neutralization phenolphthalein indicator. Calculate the concentration of the ethanoic acid solution in moldm-^{3}

(a) 0.116
(b) 0.20
(c) 0.40
(d) 0.60

141. An unknown compound Y contain 85.60% carbon and 14.40% Hydrogen. Catalytic hydrogenation of 0.500g at OC and 1atm consumed 100ml of H_2 determine its molecular formula

(a) CH_2
(b) C_2H_4
(c) C_3H_4
(d) C_8H_{16}

142. The product of firedel-craft acylation of benzene with propanoylchloride is----

(a) *Propanoylphenyl*
(b) *1-phenylpropan-1-one*
(c) *Phenylethanone*
(d) *Propanoylbenzene*

143. *The general formula of cycloalkanes is----*

(a) C_nH_{2n2}
(b) C_nH2_{n+1}
(c) C_nH_{2n}
(d) $C_nH_{2n+1}X$

144. Markovnikov's rule was organized into a simple statement in the year----

(a) [illegible]
(b) [illegible]
(d) 1787

145. The I.U.PA.C. name for this compound $CH_3CH(Br)CH(Cl)CH_2CH(CH_3)COCH(Cl)CH_3$

(a) 2-Bromo-3, 7-dichloro-5 methylocta-6-one
(b) 2-Bromo-3, 7-dichloro-5 methyloctan-6-one
(c) 7Bromo-4-dichloro-5 methyloctan-6-one
(d) 2-Bromo-3, 7-dichloro-5 methyloctan-6-one

146. All are isomers of C_4H_8O EXCEPT

(a) Butanal
(b) Butanone
(c) 2-Methylpropanal
(d) 2-Methypropanone

147 The structural formular for 3, 3, 5-timethylhexanal is

(a) $CH_3C(CH_3)CH_2CH(CH_3)_2CH_2CHO$
(b) $CH_3CH(CH_3)CH_2C(CH_3)_2CH_2CHO$
(C) $CH_3CH(CH_3)CH_2CH(CH_3)_2CHCHO$

(d) $CH_3C(CH_3)CH_2C(CH_3)_2CH_2CHO$

148 An hydroxyl group will easy attack the carbon atoms of a C=O group, because the
(a) the carbon atom is electron poor
(b) the oxygen atom is electron rich
(c) the carbon atom is electron rich
(d) the oxygen atom is electron poor

149. Complete combustion of 0.858g of compound x gives 2.63g of co2 and 1.28g of h2o. Determine its lowest molecules formular
(a) C_3H_7
(b) C_3H_6
(C) C_6H_{14}
(d) C_6H_{12}

150. Which of the following reagent will be used to convert butanal to butanioc acid
(a) dil. $KMnO_4$
(b) conc $KMnO_4$
(c) dil $K_2Cr_2O_7$
(d) conc HNO_3