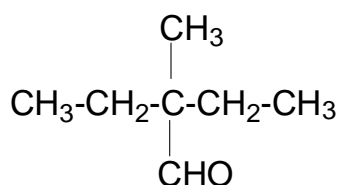


62. The pollutant that causes methemoglobinemia (blue baby syndrome) is

- 1) Pb^{+2} 2) SO_4^{-2} 3) NO_3^- 4) AsO_3^{-3}

63. The IUPAC name of



- 1) 3-Formyl-3-methyl Pentane 2) 2-ethyl 2-methyl butanal
3) 2-ethyl-2-formylbutane 4) 2,2-Diethyl propanal

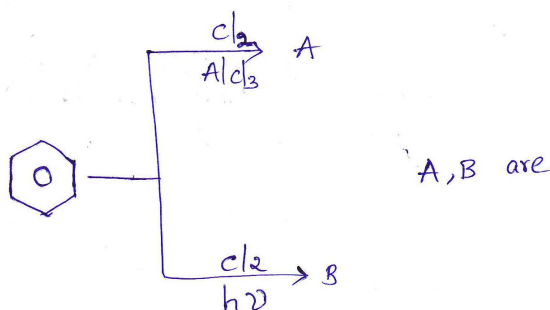
64. $CH_2 = CH - CH_2OH$ and $CH_2 = CH - O - CH_3$ are

- 1) Chain isomers 2) Position isomers 3) functional group isomers 4) metamers

65. $A \xrightarrow[\text{Pd/BaSO}_4]{H_2} R - C \equiv C - R \xrightarrow[200^\circ C]{Na/NH_3} B$. Where A and B are respectively

- 1) Trans alkene, cis alkene 2) cis alkene, Trans alkene
3) cis alkene, cis alkene 4) Trans alkene, Trans alkene

66.



- 1) A=chlorobenzene B=Chlorobenzene 2) A=Lindane B=Chlorobenzene
3) A=BHC B=BHC 4) A=Chlorobenzene B=Lindane

67. Glycerol is purified by

- 1) Crystallisation 2) Fractional distillation
3) Vacuum distillation 4) sublimation

68. The charge heated in the blast furnace contains ore, coke and limestone in the ratio by weight of

- 1) 1:2:3 2) 1:4:8 3) 8:4:1 4) 2:2:2

69. The outer electronic configuration of the element with $Z=42$ is

- 1) $5s^2 4d^4$ 2) $5s^1 4d^5$ 3) $5s^2 5p^4$ 4) $4s^2 3d^4$

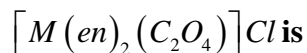
70. The catalyst used in the preparation of High density polythene (HDP) is

- 1) $R_3Al + TiCl_4$ 2) $SnCl_4$ 3) Ni 4) Pt

71. The complex $Fe(CO)_x$ follows the EAN rule. Then the value of 'x' is

- 1) 3 2) 4 3) 5 4) 6

72. The sum of coordination number and oxidation number of the metal 'M' in the complex



- 1) 6 2) 7 3) 8 4) 9

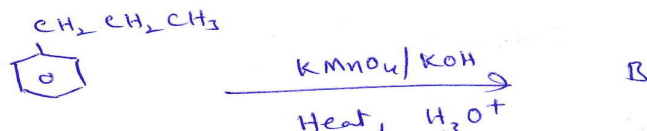
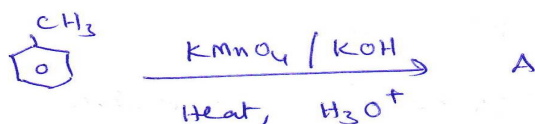
73. The IUPAC name of the wilkinsons catalyst $[RhCl(PPh_3)_3]$ is

- 1) Chlorotris (triphenyl phosphine) rhodium (I)
2) Chlorotris (triphenyl phosphine) rhodium (IV)
3) Chlorotris (triphenyl phosphine) rhodium (O)
4) Chlorotris (triphenyl phosphine) rhodium (VI)

74. Which of the following is 100 times sweeter than sugar

- 1) sucralose 2) saccharin 3) Aspartame 4) Alitame

75. Which of the following does not exhibit the phenomenon of mutarotation
 1) (+) sucrose 2) (+) Lactose 3) (+) Maltose 4) (-) Fructose
76. Which of the following varies from species to species
 1) A=T 2) C=G 3) A+G=C+T 4) $\frac{AT}{GC}$ ratio
77. Which of the following is fully fluorinated polymer
 1) PVC 2) Thiokol 3) Teflon 4) Neoprene
78. Which of the following can undergo both aldol condensation and haloform reaction?
 1) $CH_3 - CH_2 - CHO$ 2) $CH_3 - CO - CH_3$ 3) $Cl_3C - CHO$ 4) C_6H_5CHO
79. Primary, secondary and tertiary alcohols are distinguished by which of the following methods?
 1) Oxidation method 2) Lucas test
 3) Victor meyer's method 4) All of the above
80. $(CH_3)_3C - O - CH_3$ reacts with *dil.HI* gives
 1) $(CH_3)_3I + CH_3OH$ 2) $(CH_3)_3COH + CH_3I$
 3) $(CH_3)_2CHOH + CH_3I$ 4) $(CH_3)_3I + CH_3I$
- 81.



In these reactions A and B are

- 1) C_6H_5COOH and C_6H_5COOH 2) C_6H_5COOH and C_6H_5OH
 3) C_6H_5COOH and $C_6H_5CH_2CHO$ 4) C_6H_5COOH and $C_6H_5CH_2CH_2CHO$
82. Which of the following would not react with benzene sulphonyl chloride in *aq.NaOH* ?
 1) Aniline 2) Methylamine
 3) N,N-Dimethylaniline 4) N-Methyl ethanamine
83. Atoms of element 'B' form hcp lattice and those of the element 'A' occupy $\frac{2}{3}$ rd of tetrahedral voids. What is the formula of the compound formed by the elements A and B.
 1) AB 2) A_2B 3) A_2B_3 4) A_4B_3
84. The molar conductivity of $0.025 \text{ mol.lit}^{-1}$ methanoic acid is $46.1 \text{ s.cm}^2.\text{mole}^{-1}$. The degree of dissociation is? $\left(\lambda_{(H^+)}^0 = 349.6 \text{ s.cm}^2.\text{mole}^{-1} \text{ and } \lambda_{(HCOO^-)}^0 = 54.6 \text{ s.cm}^2.\text{mole}^{-1} \right)$
 1) 0.114 2) 21.3 3) 3.66 4) 0.35
85. A first order reaction is 50% complete in 23min. The time required to complete 90% of the reaction is
 1) 23min 2) 56min 3) 76.5min 4) 92min
86. Among $[Fe(CN)_6]^{-4}$, PO_4^{-3} , SO_4^{-2} and Cl^- , which coagulates positive sol readily
 1) $[Fe(CN)_6]^{-4}$ 2) PO_4^{-3} 3) SO_4^{-2} 4) Cl^-
87. Identify the correct matching
 1) Thermal Stability - $NH_3 < PH_3 < AsH_3 < SbH_3$
 2) Reducing Power - $NH_3 > PH_3 > AsH_3 > SbH_3$
 3) Basic Character - $NH_3 < PH_3 > AsH_3 < SbH_3$
 4) Volatile nature - $PH_3 > AsH_3 > NH_3 > SbH_3$

88. Identify acidic oxide
 1) Cl_2O_7 2) CO_2 3) N_2O_5 4) All the above
89. Among the following which one has the highest oxidizing power
 1) $HOCl$ 2) $HClO_2$ 3) $HClO_3$ 4) $HClO_4$
90. The hybridization and number of lone pairs present around 'Xe' atom in XeF_4 is
 1) $sp^3d, 3$ 2) $sp^3d^2, 2$ 3) $sp^3d^3, 1$ 4) $sp^3, 1$

BIOLOGY

91. Which of the following taxonomic categories includes all the other categories?
 1) order 2) kingdom 3) species 4) family
92. Muscles which regulate the diameter of pupil are
 1) Ectodermal striated 2) Mesodermal striated
 3) Ectodermal unstriated 4) Mesodermal unstriated
93. Which of the following is not related to Rock weed
 1) It is a Rhodophyceae member 2) It contains chl.a and chl.c
 3) Diplontic life cycle is present 4) Two unequal lateral flagella are present
94. The following are associated with nerve fibres in Peripheral Nervous System
 A) Axolemma B) Neurilemma C) Endoneurium D) Myelin sheath
 E) Axoplasm
 The correct sequence of the above from inside to outside w.r.to the nerve fibre is
 1) E,A,B,D,C 2) E,A,D,C,B 3) E,A,C,B,D 4) E,A,D,B,C
95. How many sentences are correct related to Terror of Bengal
 i) Vegetative propagation takes place through offset
 ii) It is free floating hydrophyte
 iii) Pulvinus petiole is present
 iv) It drains CO_2 from the water
 1) All are correct 2) Three are correct 3) Two are correct 4) one is correct
96. Identify the correct statements
 A) Thyroxine can decrease rate of heart beat and cardiac output
 B) Neural signals through the sympathetic nerves can increase rate of heart beat and cardiac output
 C) Epinephrine and norepinephrine can increase rate of heart beat and cardiac output
 D) Parasympathetic neural signals can increase rate of heart beat and cardiac output
 1) A,B 2) B,C 3) C,D 4) A,D
97. Mismatch is
 1) Lycopsidea – *Selaginella* 2) Sphenopsida – *Lycopodium*
 3) Pteropsida – *Adiantum* 4) Psilopsida – (*psilotum*)
98. Choose the incorrect combinations from the following
 A) R.C.Dagar – Polyblend
 B) Kyoto protocol – Depletion of O_3
 C) Amrita Devi – Conservation of wildlife in urban areas
 D) Burning of plastics – Polychlorinated biphenyls
 1) all the above 2) A,B 3) C,D 4) A,B,C
99. Ascospores and Basidiospores produced in the following manner
 1) Endogenously, Endogenously 2) Exogenously, Endogenously
 3) Endogenously, Exogenously 4) Exogenously, Exogenously
100. Defects in ADH receptors or inability to secrete ADH cause
 1) Diabetes mellitus 2) Diabetes insipidus 3) Uremia 4) Renal Calculi
101. Pneumatophores are present in
 1) *Rhizopus* 2) *Rhizobium* 3) *Vanda* 4) *Rhizophora*