

51. For neutralisation of one mol of NaOH the mass of 70% H_2SO_4 required is :

- (a) 48 g (b) 70 g
(c) 49 g (d) 35 g

52. Philosopher's wool on treatment with cobalt nitrate produce :

- (a) CoBaO (b) CoZnO
(c) CoSrO (d) CoMgO

53. The most stable carbonium ion is :

- (a) CH_3CH_2^+ (b) $\text{C}_6\text{H}_5\text{CH}_2^+$
(c) $\text{C}_6\text{H}_5\text{CH}^+\text{C}_6\text{H}_5$ (d) $\text{C}_6\text{H}_5\text{CH}_2\text{CH}_2^+$

54. The highest dipole moment is of :

- (a) CF_4 (b) CH_3OH
(c) CO_2 (d) CH_3F

55. The normality of mixture obtained by mixing 100 mL of 0.2 M H_2SO_4 and 200 mL of 0.2 M HCl is :

- (a) 0.0267 (b) 0.2670
(c) 1.0267 (d) 1.1670

56. The green house effect is caused by :

- (a) NO (b) NO_2
(c) CO (d) CO_2

57. The density of air is 0.001293 g/cc. Its vapour density is :
 (a) 0.001293 (b) 8.2786
 (c) 14.48 (d) 6.2706
58. The process of heating and suddenly cooling of steel is known as :
 (a) tempering (b) annealing
 (c) hardening (d) nitriding
59. The bonding present between the carbon atoms of graphite :
 (a) metallic
 (b) ionic
 (c) covalent
 (d) van der Waals' forces
60. Compressibility factor for 1 mole of a van der Waals' gas at 0°C and 100 atmospheric pressure is found to be 0.5 the volume of gas molecules is :
 (a) 2.0224 (b) 1.4666
 (c) 0.8542 (d) 0.1119
61. An ideal gas is allowed to expand under adiabatic conditions. The zero value is of :
 (a) $\Delta T = 0$ (b) $\Delta S = 0$
 (c) $\Delta G = 0$ (d) none of these
62. The maximum valency of an element having atomic number seven is :
 (a) 1 (b) 3
 (c) 5 (d) 7
63. NH_4Cl solution is :
 (a) neutral (b) acidic
 (c) basic (d) amphoteric
64. For first order reaction, the unit of rate constant is :
 (a) $\text{L mol}^{-1} \text{time}^{-1}$
 (b) $\text{mol L}^{-1} \text{time}^{-1}$
 (c) time^{-1}
 (d) none of the above
65. Aniline chloroform and alcoholic KOH reacts to produce a bad smelling substance which is :
 (a) phenyl isocyanide
 (b) phenyl cyanide
 (c) chloro benzene
 (d) benzyl alcohol
66. In the titration of iodine against hypo the indicator used is :
 (a) starch
 (b) potassium ferricyanide
 (c) methyl orange
 (d) methyl red
67. Excess of ethanol and conc. H_2SO_4 on heating up to 140°C. To produce :
 (a) diethyl ether
 (b) diethyl sulphate
 (c) ethyl hydrogen sulphate
 (d) ethylene
68. The shape of IF_7 molecule is :
 (a) pentagonal bipyramidal
 (b) trigonal pyramidal
 (c) tetrahedral
 (d) square planar
69. The kinetic energy of 14 g of nitrogen gas at 127°C is [gas constant = 8.31 J/K/mol]
 (a) 4.4673 kJ (b) 3.857 kJ
 (c) 2.493 kJ (d) 1.857 kJ
70. Born-Haber cycle is used to determine :
 (a) electron affinity (b) lattice energy
 (c) crystal energy (d) all of these
71. The oxidation number of phosphorus in $\text{Ba}(\text{H}_2\text{PO}_2)_2$ is :
 (a) +1 (b) -1
 (c) +2 (d) +3
72. A gas diffuses four times as quickly as oxygen. The molecular weight of gas is :
 (a) 2 (b) 4
 (c) 8 (d) 16
73. Vitamin B_{12} contains the metal is :
 (a) cobalt (b) manganese
 (c) magnesium (d) iron
74. The compound responds to Tollen's reagent is :
 (a) CH_3COCH_3 (b) CH_3CHO
 (c) CH_3CONH_2 (d) CH_3COOH
75. When chloroform is exposed to air and sunlight the compound obtained is :
 (a) chloral (b) acetyl chloride
 (c) phosgene (d) methyl chloride
76. The laughing gas is :
 (a) nitrous oxide (b) dinitrogen trioxide
 (c) nitric oxide (d) nitrogen peroxide
77. Alkyl halide on heating with dry Ag_2O produce :
 (a) ether (b) ester
 (c) ketone (d) hydrocarbon
78. Borazine is represented by the molecular formula :
 (a) B_6H_6 (b) B_5NH_6
 (c) $\text{B}_4\text{N}_2\text{H}_6$ (d) $\text{B}_3\text{N}_3\text{H}_6$

79. The product is obtained by the reaction of an aldehyde and hydroxylamine is :
 (a) hydrazone (b) aldoxime
 (c) primary amine (d) alcohol
80. Which one of the following is not a chromophore ?
 (a) $-\text{NO}$ (b) $-\text{N}=\text{N}-$
 (c) $-\text{NO}_2$ (d) $-\text{NH}_2$
81. The isomer of ethyl alcohol is :
 (a) diethyl ether (b) dimethyl ether
 (c) acetaldehyde (d) acetone
82. Buffer solutions can be obtained by mixing aqueous solution of :
 (a) NaOH and HCl
 (b) CH_3COOH and NaOH
 (c) CH_3COONa and CH_3COOH
 (d) CH_3COONa and HCl
83. An element having atomic number 56 belongs to :
 (a) lanthanides
 (b) actinides
 (c) alkaline earth metals
 (d) none of the above
84. Dry ice is :
 (a) dry CO_2 gas (b) solid SO_2
 (c) solid NH_3 (d) solid CO_2
85. The alicyclic compound is :
 (a) cyclohexane (b) cyclohexene
 (c) pyrrole (d) hexane
86. Adsorbed hydrogen by palladium is known as :
 (a) nascent (b) atomic
 (c) heavy (d) occluded
87. In benzylic acid rearrangement :
 (a) benzoin is converted into benzylic acid
 (b) benzaldehyde is converted into benzoin
 (c) benzyl is converted into benzylic acid
 (d) benzylic acid is converted into benzyl
88. On heating O_3 , its volume :
 (a) remains unchanged
 (b) becomes doubled
 (c) becomes half
 (d) becomes $\frac{3}{2}$ times
89. Chloramphenicol is an :
 (a) analgesic (b) antipyretic
 (c) antiseptic (d) antibiotic
90. Which of the following compound can be easily sulphonated ?
 (a) Chlorobenzene (b) Nitrobenzene
 (c) Toluene (d) Benzene
91. $l = 3$ then the values of magnetic quantum numbers are :
 (a) $\pm 1, \pm 2, \pm 3$ (b) $0, \pm 1, \pm 2, \pm 3$
 (c) $-1, -2, -3$ (d) $0, +1, +2, +3$
92. The electrical conduction is shown by :
 (a) potassium (b) sodium
 (c) graphite (d) diamond
93. Carborundum is :
 (a) CaC_2O_4 (b) $\text{Al}_2(\text{CO}_3)_3$
 (c) CaH_2 (d) SiC
94. The base not present in DNA is :
 (a) uracil (b) guanine
 (c) adenine (d) cytosine
95. The monomers of terylene are :
 (a) phenol and formaldehyde
 (b) ethylene glycol and phthalic acid
 (c) adipic acid and hexamethylene diamine
 (d) ethylene glycol and terephthalic acid
96. The most polar bond is :
 (a) $\text{C}-\text{F}$ (b) $\text{C}-\text{O}$
 (c) $\text{C}-\text{Br}$ (d) $\text{C}-\text{S}$
97. Brownian movement is found in :
 (a) unsaturated solution
 (b) saturated solution
 (c) colloidal solution
 (d) suspension solution
98. The rate of a chemical reaction depends on :
 (a) pressure (b) time
 (c) concentration (d) all of these
99. The positive charge of an atom is :
 (a) distributed around the nucleus
 (b) concentrated at the nucleus
 (c) spread all over the atom
 (d) none of the above
100. The increasing order of acidity of H_2O_2 , H_2O and CO_2 is :
 (a) $\text{H}_2\text{O}_2 > \text{H}_2\text{O} > \text{CO}_2$
 (b) $\text{H}_2\text{O}_2 > \text{CO}_2 > \text{H}_2\text{O}$
 (c) $\text{H}_2\text{O} > \text{H}_2\text{O}_2 > \text{CO}_2$
 (d) $\text{H}_2\text{O} < \text{H}_2\text{O}_2 < \text{CO}_2$

Answer Key

51. b	52. b	53. c	54. d	55. b	56. d	57. c	58. c	59. c	60. d
61. b	62. c	63. b	64. c	65. a	66. a	67. a	68. a	69. c	70. d
71. a	72. a	73. a	74. b	75. c	76. a	77. a	78. d	79. b	80. d
81. b	82. c	83. c	84. d	85. a,b	86. d	87. c	88. d	89. d	90. c
91. b	92. c	93. d	94. a	95. d	96. a	97. c	98. d	99. b	100. d