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) $CH_3\overset{+}{C}H_2$ (b) $C_6H_5\overset{+}{C}H_2$

(c) $C_6H_5\overset{+}{C}HC_6H_5$ (d) $C_6H_5CH_2\overset{+}{C}H_2$

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) L mol^{-1} $time^{-1}$
(b) mol L^{-1} time
(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 either
(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 $Ba(H_2PO_2)_2$ 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) $B_4N_2H_6$ (d) $B_3N_3H_6$

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) —NO (b) —N=N—
(c) $—NO_2$ (d) $—NH_2$

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) $Al_2(CO_3)_3$
(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) C—F (b) C—O
(c) C—Br (d) C—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) $H_2O_2 > H_2O > CO_2$
(b) $H_2O_2 > CO_2 > H_2O$
(c) $H_2O > H_2O_2 > CO_2$
(d) $H_2O < H_2O_2 < CO_2$

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