CHEMISTRY PART-I

(OBJECTIVE PART)

1.   The number of atoms present in 0.1 mole of oxygen gas is:
(a) 6.02×10^{22} (b) 3.101×10^{23} (c) $2 \times 6.02 \times 10^{22}$ (d) 9.03×10^{22}

2.   The number of isotopes of cadmium is:
(a) 3   (b) 4   (c) 5   (d) 9

3.   Nickel has isotopes:
(a) 3   (b) 5   (c) 7   (d) 2

4.   The total number of fundamental particles in an atom of Carbon - 14 is:
(a) 6   (b) 8   (c) 14   (d) 20

5.   Hemoglobin is a Macro Molecule and consists of approximately   atoms:
(a) 5,000   (b) 10,000   (c) 68,000   (d) 15,000

6.   The number of atoms in 1.79 g of gold and _____ g of sodium are   equal:
(a) 0.23   (b) 23   (c) 230   (d) 2300

7.   The largest number of molecules are present:
(a) 3.6 g of H_2O (b) 4.8 g of C_2H_5OH
(c) 2.8 g of CO   (d) 5.4 g of N_2O_5

8.   In Al2O3, the ratio between the ions is:
(a) 1:2   (b) 2:1   (c) 2:3   (d) 3:2

9.   Which is not a molecular Ion?
(a) He^+ (b) $CH_4^{\pm}$ (c) $NH_4^{\pm}$ (d) CO^+

10.   Tin has isotopes:
(a) 9   (b) 10   (c) 11   (d) 12
(a) One   (b) Eleven   (c) Fifteen   (d) Eighteen

11.   A pair of elements having single isotope are:
(a) $_9F^{19}$, $_{79}Au^{197}$ (b) $_{53}I^{127}$, $_{35}Br^{81}$
(c) $_8O^{16}$, $_7N^{14}$ (d) $_{33}As^{75}$, $_7N^{14}$

12.   Average Atomic Mass of Neon is:
(a) 20.00   (b) 20.18   (c) 20.20   (d) 20.0

13.   Number of isotopes of oxygen is:
(a) Two   (b) Three   (c) Four   (d) Five

14.   Isotopes differ in:
(a) Properties which depend upon mass
(b) Arrangement of electrons in orbitals
(c) Chemical properties
(d) The extent to which they may be affected in electromagnetic field

15.   One mole of SO_2 contains:
(a) 6.02×10^{23} atoms of oxygen   (b) 18.1×10^{23} molecules of SO_2
(c) 6.02×10^{23} atoms of sulphur   (d) 4g of atoms of SO_2

16.   During combustion analysis, CO_2 Produced is absorbed in:
(a) $Mg(CIO_4)_2$ (b) 50% KOH (c) $CaCl_2$ (d) P_2O_5

17.   Ascorbic acid is vitamin:
(a) A   (b) B   (c) C   (d) D

18.   1 model of CH_3OH and C_2H_5OH have:
(a) Equal number of molecules
(b) Equal number of atoms
(c) Equal number of ions
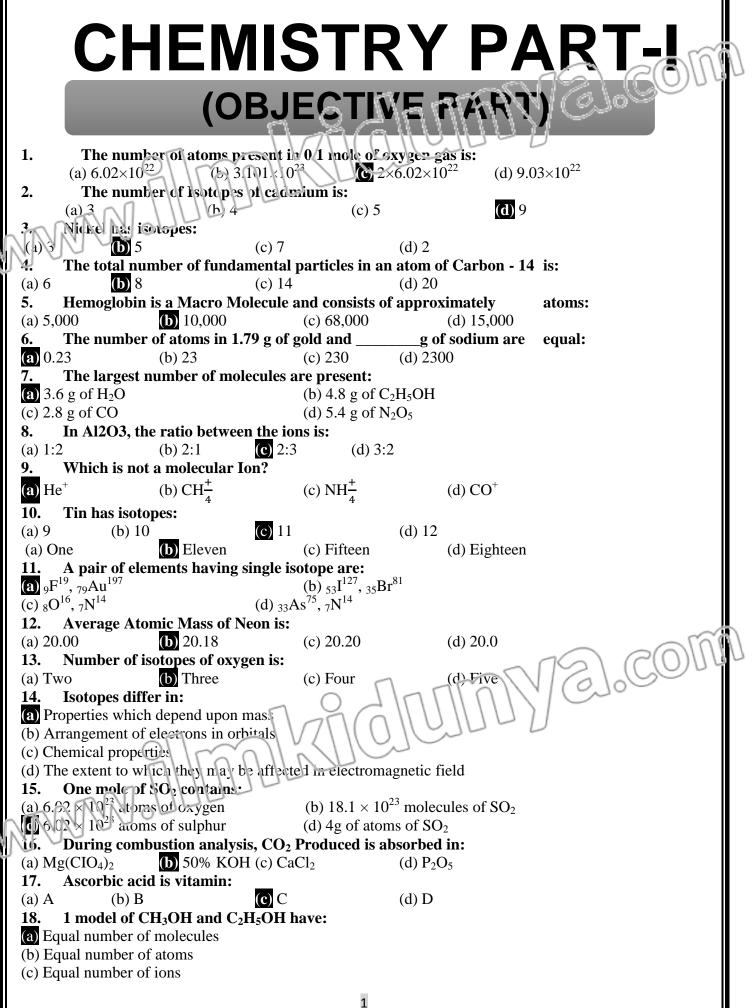
(d) Equal number of protons

19.   I gram formula of NaCl is equal to:

(a) 58.5 g   (b) 23.5   (c) 35.5 g   (d) 12 g

20.   The mass of one mole of electrons is:

(a) 1.008 mg   (b) 0.55 mg   (c) 0.184 mg   (d) 1.673 mg

21.   27 g of Al will react completely with how much mass of O_2 to produce Al_2O_3:

(a) 8 g of oxygen   (b) 32 g of oxygen

(c) 32 g of oxygen   (d) 24 g of oxygen

22.   The number of moles of CO_2 which contain 8.0 of oxygen:

(a) 0.25   (b) 0.15   (c) 0.35   (d) 1.45

23.   The volume occupied by 1.4 g of N2 at S.T.P is:

(a) 2.24 dm^3 (b) 22.4 dm^3 (c) 1.12 dm^3 (d) 112 cm^3

24.   The calculation based on balanced chemical equation is called:

(a) Complex calculation   (b) Stoichiometric calculation

(c) Non-stoichiometric calculation   (d) None of these

25.   The ratio of actual yield to theoretical multiplied by 100 is called:

(a) Complex yield   (b) Experimental yield

(c) %age yield   (d) None of these

26.   A filtration process could be very time consuming if it were not aided by a gentle   suction, which   is developed:

(a) If the paper covers the funnel circumference up to its circumference

(b) If the paper has got small sized pores in it

(c) If the stem of the funnel is large so that it dips into the filtrate

(d) If the paper fits tightly

27.   During the process of crystallization, the hot saturated solution:

(a) Is cooled very slowly to get large sized crystals

(b) Is cooled at moderate rate to get medium sized crystals

(c) Is evaporated to get the crystals of the product

(d) Is mixed with an immiscible liquid to get the pure crystals of product

28.   The drying agent used in a desiccator.

(a) AgCl   (b) NH$_4$Cl   (c) P$_2$O$_5$ (d) AlCl$_3$

29.   The substance used for decolourization of crystalline substance is:

(a) P$_2$O$_5$ (b) Chloroform   (c) Animal Charcol (d) Soda Ash

30.   Direct conversion of solid into its vapour is called:

(a) Crystallization   (b) Sublimation

(c) Vaporization   (d) Distribution

31.   Which one of the following compound is purified by sublimation:

(a) Benzoic acid   (b) SiO2   (c) CS$_2$ (d) NaI

32.   Which of the following compounds do not show process of   sublimation?

(a) Ammonium chloride   (b) Iodine

(c) Naphthalene   (d) Carbon tetra chloride

33.   Solvent extraction is an equilibrium process and is controlled by:

(a) Law of mass action   (b) The amount of solvent used

(c) Distribution law   (d) The amount of Solute

34.   Solvent extraction method is particularly useful technique for   separation when the product to be   separated is:

(a) Non-volatile or thermally unstable

(b) Volatile or thermally stable

(c) Non-volatile or thermally stable

(d) Volatile or thermally unstable

35.   Chromatography in which the stationary phase is a solid is classified   as:

(a) Partition chromatography   (b) Gas Chromatography

(c) Adsorption Chromatography   (d) Thin layer Chromatography

36. **Borax has the chemical formula:**
(a) KNO_3 (b) $NaNO_3$
(c) $Na_2B_4O_7.10H_2O$ (d) $Na_2CO_3.H_2O$

37. **The unit millibar is commonly used by:**
(a) Meteorologists   (b) Astronauts
(c) Engineers   (d) Dalton

38. **Temperature and number of moles are kept constant in:**
(a) Boyle's law   (b) Charles's law
(c) Avogadro's law   (d) Dalton's law of partial pressure

39. **If absolute temperature of the gas is doubled and the pressure is reduced to one half the volume of the gas will:**
(a) Remains unchanged   **(b)** Increase four times
(c) Reduce to ¼   (d) Be doubled

40. **Formula used for the conversion of °F into °C is:**
(a) $^oF = \frac{9}{5}(^oC) + 32$ **(b)** $^oC = \frac{9}{5}(^oF - 32)$
(c) $^oF = \frac{9}{5}(^oC) + 32$ (d) $^oC = \frac{5}{9}(^oF - 32)$

41. **Density of an ideal gas can be calculated by using equation:**
(a) $PV = dRT$ (b) $PM = dPV$
(c) $d = \frac{RT}{MP}$ **(d)** $PM = dRT$

42. **The sum of mole fraction of gas in a mixture of gases is:**
(a) Always more than one   (b) Always less than one
(c) Always one   (d) May be less ore more than one

43. **The molar volume of CO2 is maximum at:**
(a) STP (0° C and 1 atm   **(b)** 127° C and 1 atm
(c) 0° C and 2 atm   (d) 273^oC and 2 atm

44. **Mass of 22.4 dm3 of N_2 at STP is:**
(a) 28 gm   (b) 14 gm   (c) 1.4 gm   (d) 2.8 gm

45. **The number of molecules in one dm³ of water is close to:**
(a) $\frac{6.02}{22.4} \times 10^{23}$ (b) $\frac{12.04}{22.4} \times 10^{23}$
(c) $\frac{18}{22.4} \times 10^{23}$ **(d)** $55.6 \times 6.02 \times 10^{23}$

46. **Partial pressure of oxygen in the air is:**
(a) 156 torr   (b) 157 torr   (c) 158 torr   **(d)** 159 torr

47. **The S.I unit of pressure is:**
(a) Torr   (b) mmHg   (c) Pounds inch^{-2} **(d)** Nm^{-2}

48. **Dalton's law of partial pressure can be derived from:**
(a) Avogadro's   **(b)** General gas equation All of these
(c) Charles's law   (d) All of these

49. **Pressure remaining constant temperature the volume of a become twice of what it is at 0°C:**
(a) 546° C   (b) 200° C   **(c)** 546 K   (d) 273 K

50. **Equal masses of methane and oxygen are mixed an empty container at 25 °C. The fraction of total pressure exerted by oxygen is:**
(a) ⅓   (b) $\frac{8}{9}$ (c) $\frac{1}{9}$ (d) $\frac{16}{17}$

51. **The partial pressure of oxygen in lungs is:**
(a) 760 torr   (b) 320 torr   (c) 159 torr   **(d)** 116 torr

52. **The spreading of fragrance of a rose or scent in air is due to:**
(a) Effusion   **(b)** Diffusion   (c) Osmosis   (d) Evaporation

53. **The order of the rate of diffusion of gases NH_3, SO_2, Cl_2 and CO_2 is:**
(a) $NH_3 > SO_2 > Cl_2 > CO_2$ **(b)** $NH_3 > CO_2 > SO_2 > Cl_2$
(c) $Cl_2 > SO_2 > CO_2 > NH_3$ (d) $NH_3 > CO_2 > Cd_2 > SO_3$

54. **Which of the following will have highest rate of diffusion?**

(a) O_2 (b) CO_2 (c) NH_3 (d) SO_2

55. **Kinetic equation PV = $\frac{1}{3}$ m $\sqrt{C^2}$ is derived by:**
(a) Maxwell   (b) Boltzmann (c) Clausius   (d) Bernoulli

56. **The deviation of gas from ideal behaviour is maximum at:**
(a) -10° C and 5.0 atm   (b) -10° C and 2.0
(c) 100° C and 2 atm   (d) 0° C and 2.0 atm

57. **The temperature of a natural plasma is about:**
(a) 20000°C   (b) 10000°C   (c) 5000°C   (d) 1000°C

58. **Dipole – dipole forces are present among:**
(a) Molecules of Iodine   (b) Atoms of neon in gaseous state
(c) Chloroform molecules   (d) CCl_4 molecules

59. **Debye forces are also called:**
(a) Dipole-dipole forces   (b) Dipole-Induced dipole forces
(c) London forces   (d) Ion-dipole forces

60. **Which of the given has Hydrogen Bonding?**
(a) CH_4 (b) CCl_4 (c) NH_3 (d) NaCl

61. **In chloroform and acetone, how many chlorine atoms are responsible for hydrogen bonding?**
(a) 1   (b) 2   (c) 3   (d) 4

62. **Acetone and chloroform are soluble in each other due to:**
(a) Intermolecular hydrogen bonding   (b) Dipole-dipole interaction
(c) Instantaneous dipoles   (d) all of the above

63. **When water freezes, its volume increases:**
(a) 10%   (b) 9%   (c) 15%   (d) 18%

64. **Among the given H-Bonding is maximum in:**
(a) Alcohol   (b) Benzene   (c) Water   (d) Diethyl ether

65. **When water freezes at 0°C, its density decreases due to:**
(a) Cubic structure of ice
(b) Empty spaces present in the structure of ice
(c) Change of bond lengths   (d) Change of bond angles

66. **In order to mention the B.P. of water at 110°C, the external pressure   should be:**
(a) Between 760 torr and 1200 torr
(b) between 200 torr and 760 torr
(c) 765 torr   (d) Any value of pressure

67. **The boiling point of glycerine at one atm is:**
(a) 280°C   (b) 290°C   (c) 100°C   (d) 110°C

68. **The boiling point of water at the top of Mount Everest is:**
(a) 59°C   (b) 69°C   (c) 83°C   (d) 75°C

1. **NH3 shows a maximum boiling point among the hydrides of V-A   group elements due to:**
(a) Very small size of nitrogen
(b) Lone pair of electrons present on nitrogen
(c) Enhanced electronegative character of nitrogen
(d) Pyramidal structure of NH_3

69. **The crystal System of Sugar is:**
(a) Monoclinic   (b) Cubic   (c) Hexagonal (d) Triclinic

70. **Which one of the following is an example of cubic system?**
(a) Diamond   (b) Borax   (c) Iodine   (d) Graphite

71. **The crystal system of sulphur is:**
(a) Cubic   (b) Hexagonal (c) Triclinic   (d) Monoclinic

72. **If a ≠ b ≠ c and α = γ = 90°, β ≠ 90° then crystal system is:**
(a) Monoclinic   (b) Diclinic   (c) Triclinic   (d) Polyclinic

73. **Which is pseudo solid?**
(a) CaF_2 (b) Glass   (c) NaCl   (d) $CaCl_2$

4

74.   **Transition temperature of KNO3 is:**
(a) 13.2 °C   (b) 95.5 °C   **(c)** 128 °C   (d) 32.2 °C

75.   **Crystal of diamond is:**
(a) Ionic   (b) Covalent   **(c)** Molecular (d) Metallic

76.   **The Lightest value of Lattice energy is for which one of these ionic   compounds:**
(a) NaI   (b) NaF   (c) NaBr   (d) NaCl

77.   **Ionic solids are characterized by:**
(a) Low melting point   (b) Good conductivity in solid state
(c) High vapours pressure   **(d)** Solubility in polar solvent

78.   **Diamond is bad conductor because:**
(a) It has a tight structure   (b) It has a high density
(c) It is transparent to light
(d) There are no free electrons present in the crystal of diamond to   conduct electricity

79.   **Cathode rays strike alumina and produce a .... colour:**
(a) Red   (b) Blue   (c) Yellow   (d) Green

80.   **Positive rays were discovered by:**
(a) J.J Thomson   **(b)** Goldstein
(c) William Crookes   (d) Ruther ford

81.   **The nature of positive rays depends on:**
(a) The nature of electrode   (b) The nature of discharge tube
(c) The nature of residual gas   (d) All of the above

82.   **The e/m value for the positive rays in maximum for the gas.**
(a) Hydrogen (b) Helium   (c) Oxygen   (d) Nitrogen

83.   **When fast neutron carries nuclear reaction with nitrogen it ejects   particles:**
(a) α   (b) β   (c) γ   (d) δ

84.   **Mass of an electron is:**
(a) 9.1095×10^{-31} kg   (b) 6.022×10^{22}
(c) 6.022×10^{-22} (d) 10.10×10^{30}

85.   **Rutherford's model of atom failed because:**
(a) The atom did not have a nucleus and electrons
(b) It did not account for the attraction between protons and neutrons
(c) It did not account for stability of the atom
(d) There is actually no space between the nucleus and the electrons

86.   **Bohr Model of atom is contradiction by:**
(a) Plank's quantum theory   (b) Dual nature
(c) Heisen berg's principle   (d) Paul's exclusion principle

87.   **In the ground state of an atom, the electron is present:**
(a) In the nucleus   (b) In the second shell
(c) Nearest to the nucleus   (d) Farthest from the nucleus

88.   **The velocity of photon is:**
(a) Independent of its wavelength   (b) Depends on its wavelength
(c) Equal to square of its amplitude (d) Depends on its source

89.   **Lyman series lies in spectral region:**
(a) Infrared   **(b)** Ultra violet   (c) Visible   (d) None of these

90.   **Splitting of spectra lines when atoms are subjected to strong electric   field is called:**
(a) Zeeman effect   **(b)** Strak effect
(c) Photoelectric effect   (d) Compton effect

91.   **De-Broglie equation is represented by:**
(a) $h = \frac{\lambda}{mv}$ (b) $m = \frac{h}{\lambda v}$ (c) $m = \frac{\lambda}{hv}$ **(d)** $\lambda = \frac{h}{mv}$

92.   **Quantum number values for 2p orbitals / subshell are:**
(a) n = 2, I = 1   (b) n = 1, I = 2 (c) n = 1, I = 0 (d) n = 2, I = 0

93.   **An orbital which is spherical and symmetrical is:**

(a) s – orbital (b) p - orbital (c) d - orbital   (d) f – orbital

94.   Orbitals having same energy are called:
(a) Hybrid orbitals   (b) Valence orbitals
(c) Degenerate orbitals   (d) d - orbitals

95.   n + I value of 6d orbital is:
(a) 08   (b) 09   (c) 10   (d) 11

96.   Most stable electronic configuration is of a / an:
(a) Noble Gas   (b) Electronegative Element
(c) Alkali Metal   (d) Halogen

97.   When 6d orbital is complete, the entering electron goes into:
(a) 7f   (b) 7s   **(c)** 7p   (d) 7d

98.   The element which has maximum numbers of unpaired electron is:
(a) Cr_{24} (b) Ca_{20} (c) F_{26} (d) CH_{29}

99.   Octet rule is not followed in the formation of:
(a) NF_3 (b) CF_4 (c) CCl_4 **(d)** PCl_3

100.   Which compound does not obey the octet rule?
(a) NH_3 **(b)** BCl_3 (c) H_2O (d) CH_4

101.   The covalent radius of Cl-atom is:
(a) 99.4 pm   (b) 80 pm   (c) 70 pm   (d) 66.4 pm

102.   Which element has highest ionization potential?
(a) Li   (b) Be   (c) B   **(d)** C

103.   The amount of energy released by absorbing electron in the valence   shell is:
(a) Ionization energy   **(b)** Electron affinity
(c) Electronegativity   (d) Atomization energy

104.   In methanol, bond between carbon and oxygen:
(a) Ionic   (b) Non-Polar **(c)** Polar   (d) Co-ordinate

105.   Which of the following has coordinate covalent bond:
(a) NH_4Cl (b) NaCl   (c) HCl   (d) $AlCl_3$

106.   Among the following quantum a pair of molecule having similar   geometry:
(a) BF_3, NH_3 **(b)** BF, AlF_3 (c) BeF_2, H_2O (d) BCl_3, PCl_3

107.   The geometry of SO2 molecule is:
(a) Angular   (b) Linear
(c) Tetrahedral   (d) Trigonal pyramid

108.   Beryllium dichloride follows hybridization:
(a) sp   (b) sp3   (c) sp3   (d) sp^3d^2

109.   The shape of SnCl2 molecule is:
(a) Linear   (b) Angular   **(c)** Trigonal planar   (d) Tetrahedra

110.   The structure of water molecule is:
(a) Angular   (b) Linear   (c) Trigonal   (d) Trigonal pyramidal

111.   Orbitals having same energy are called:
(a) Hybrid orbitals   (b) Valence orbitals
(c) Degenerate orbitals   (d) d-orbitals

112.   The bond angle in NH3 molecules is:
(a) 109.5°   **(b)** 107.5°   (c) 104.5°   (d) 108°

113.   The hybridization in ammonia molecule is:
(a) dsp^2 (b) sp^2 **(c)** sp^3 (d) sp

114.   The number of bonds in nitrogen molecule is:
(a) 1   (b) 2   **(c)** 3   (d) 4

115.   Dipole moment of CO2 is:
(a) 1.25 D   (b) 1.85 D   (c) 3.1 D   **(d)** Zero

116.   Dipole Moments and Molecular Structure 35. Which of the hydrogen halide has the highest percentage of ionic character?
(a) HCl   (b) HBr   **(c)** HF   (d) HI

117. _____ molecule has zero dipole moment:
   (a) CO   (b) H_2S (c) SO_2 (d) CH_4

118. If an endothermic reaction is allowed to take place very rapidly in the air, the temperature of the surrounding air:
   (a) Remains constant   (b) Increases
   (c) Decreases   (d) Remain unchanged

119. In endothermic reactions, the heat content of the:
   (a) Products is more than that of reactants
   (b) Reactants is more than that of products
   (c) Both a and b
   (d) Reactants and products are equal

120. Which of these is not a state function?
   (a) Temperature   (b) Pressure   (c) Volume   (d) Heat

121. The net heat change in a chemical reaction is same whether it is brought about in two or more different ways in one or several steps.   It is known as:
   (a) Henry's Law   (b) Hess's Law
   (c) Joule's Principle   (d) Law of conservation of energy

122. The change in heat contents of a chemical reaction at constant temperature and pressure is called:
   (a) Enthalpy change   (b) Bond Energy
   (c) Heat of Sublimation   (d) Internal Energy Change

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   (a) Enthalpy Change   (b) Bond energy
   (c) Heat of sublimation   (d) Internal energy change

124. The pressure of oxygen inside the bomb calorimeter is:
   (a) 100 atm   (b) 50 atm   (c) 25 atm   (d) 20 atm

125. One Calorie is equivalent to:
OR   One thermal calorie is equivalent to:
   (a) 0.4184 J   (b) 41.84 J   (c) 4.184 J   (d) 418.4 J

126. $\Sigma \Delta H$ (cycle) = 0 The above law is known as:
   (a) Henry's Law   (b) Hess's Law   (c) Kohlarus Law   (d) Darwins Law

127. The optimum temperature for the synthesis of NH3 by Haber's   process is:
   (a) $200\ ^oC$ (b) $300\ ^oC$ (c) $400\ ^oC$ (d) $500\ ^oC$

128. _____ was derived by C.M. guldberg and P. Waage in 1864:
   (a) Law of Conservation of Mass   (b) Law of Mass Action
   (c) Distribution Law   (d) Law of Conservation of Energy

129. The reaction which proceeds in both forward and backward   direction is called:
   (a) Irreversible reaction   (b) Reversible reaction
   (c) Spontaneous reaction   (d) Non Spontaneous reaction

130. Optimum pressure in Haber's process for synthesis of Ammonia is:
   (a) 100 – 150 atm   (b) 200 – 300 atm
   (c) 350 – 450 atm   (d) 500 – 600 atm

131. The pH of 10^{-4} moles / dm3 of Ba(OH)2 is:
   (a) Law of Conservation of Mass   (b) Law of Mass Action
   (c) Distribution Law   (d) Law of Conservation of Energy

132. The pH of 10^{-4} moles / dm³ of Ba(OH)2 is:
   (a) 4.5   (b) 6.4   (c) 7.5   (d) 10.3

133. The value of Kw at $25°C$ is:
OR   The value of ionic product (Kw) of water at $25°C$ is:
   (a) 0.11×10^{-14} (b) 0.30×10^{-14}
   (c) 1×10^{14} (d) 3×10^{-14}

134. The pH of human blood is maintained at pH.

(a) 7.4   (b) 7.3   (c) 7.00   (d) 8.00

135. Sum of pKa and pKb is equal to:

(a) 7   (b) 1   (c) 14   (D) 0

136. By adding NH4CI to NH4OH solution. The ionization of NH4OH:

   (a) Increases   (b) Remains same

   (c) Decreases   (d) Increases 100 times

137. The pH of buffers can be calculated by:

(a) Henderson equation   (b) Nerst equation

(c) Kinetic equation   (d) Arrhenius equation

138. Relative lowering of vapour pressure is equal to:

(a) Mole fraction of solute   (b) Mole fraction of solvent

(c) Molarity   (d) Molality

139. A thermometer used in landsberger's method can read upto:

(a) 0.1 K   (b) 0.01 F   (c) 0.01 K   (d) 0.01°C

140. 18 g glucose is dissolved in 90g of water. The relative lowering of vapour pressure is equal to:

(a) 5   (b) 5.1   (c) $\frac{1}{51}$ (d) 6

141. A solution of glucose is 10% w/v. The volume in which 1 g mole of it is dissolved will be:

(a) 1 dm³   (b) 1.8 dm³   (c) 200 cm³   (d) 900 cm³

142. An aqueous solution of ethanol in water may have vapour pressure:

OR   An aqueous solution of ethanol in water has vapour pressure:

(a) equal to that of water   (b) equal to that of ethanol

(c) more than that of H_2O (d) less than that of water

143. Which of the following solutions has the highest boiling point?

(A) 5.85% solution of sodium chloride

(B) 18.0% solution of glucose

(C) 6.0% solution of urea

(D) All have the same boiling point

144. The oxidation number of C in C12H22O11 is:

(a) Zero   (b) -6   (c) +6   (d) 12

145. The oxidation number of O-atom in OF_2 is:

   (a) -2   (b) +2   (c) -1   (d) +1

146. Which of the following statements is correct about Galvanic cell?

(a) anode is negatively charged   (b) reduction occurs at anode

   (c) cathode is positively charged   (d) reduction occurs at cathode

147. The reduction potential of Zn is:

(a) +0.76 V   (b) -0.34 V   (c) +0.34 V   (d) -0.76 V

148. The standard redox potential of following reaction is $Zn2+ + 2e- \rightarrow Zn$:

(a) -0.76 V   (b) 2.87 V   (c) 0.026 V   (d) 3.045

149. The cathodic reaction in the electrolysis of dil. H2SO4 with Pt electrodes is:

(a) reduction   (b) oxidation

(c) both oxidation and reduction   (c) neither oxidation nor reduction.

150. Stronger the oxidizing agent, greater is the:

(a) Oxidation potential   (b) reduction potential

(c) redox potential   (d) E.M.F of cell

151. If the salt bridge is not used between two half cells, then the voltage.

(a) decrease rapidly   (b) decrease slowly

(c) does not change   (d) drops to zero.

152. If a strip of Cu metal is placed in a solution of FeSO4:

(a) Cu will be precipitated down   (b) Fe is precipitated out

(c) Cu and Fe both dissolve   (d) No reaction takes place.

153. The unit of rate constant is the same as that of the rate of reaction is:

(a) First order reaction   (b) Second order reaction

(c) Zero-order reaction   (d) Third order reaction
154. The unit of rate constant is the same as that of the rate of reaction in:
(a) First order reaction   (b) Second order reaction
(c) Zero-order reaction   (d) Third order reaction
155. In zero order reaction, the rate is independent of:
(a) Temperature of reaction   (b) Concentration of reactants
(c) Concentration of products   (d) None of these
156. If the rate equation of a reaction 2A+B → products is, rate = K[A]2 [B], and A is present in large excess, then order of reaction is:
(a) 1   (b) 2   (c) 3   (d) none of these
157. The rate of reaction _____ as the reaction proceeds.
(a) Increases   (b) Decreases
(c) Remains the same   (d) May decrease
158. With increase in 10°C temperature, the rate of reaction doubles. This increase in rate of reaction is due to:
(a) Decrease in activation energy of reaction
(b) Decrease in the number of collisions between reactant molecules.
(c) Increase in activation energy of reactants
(d) increase in number of effective collisions.
159. Unit of rate constant is the same as that of the rate of reaction in:
(a) Zero order reaction   (b) 1st order Reaction
(c) 2nd order Reaction   (d) 3rd order reaction.
160. Glucose can be converted into ethanol by an enzyme:
(a) Lipase   (b) Zymase   (c) Sucrose   (d) Urease

(SUBJECTIVE PART)

68/68 Marks Challenge

SECTION-I

SHORT QUESTIONS (SQs)

1. Define molecular ion, write its uses.
2. Why we use the term relative atomic mass?
3. Calculate the percentage of Nitrogen in urea.
4. What are isotopes? Why they have same chemical but different physical properties?
5. Define isotopes why they have same chemical properties?
6. Explain mathematical relationship of m/e of an ion in mass spectrometry.
7. How does no individual neon atom in the sample of the element has mass 20.18 amu?
8. Write functions of $Mg(ClO_4)_2$ and KOH in combustion analysis.
9. Why oxygen cannot be determined directly in combustion analysis?
10. Differentiate between empirical and molecular formula.
11. A compound may have same molecular and empirical formula, Justify.
12. Define molecular formula. How is it related with empirical formula?
13. Define limiting reactant. Give an example.
14. Many chemical reactions taking place in our surrounding involve limiting reactants. Give reason
15. Define actual yield. Write formula for the calculation of % age yield.
16. Why actual yield is always less than theoretical yield?