

- 41. Which statement is true about electron affinity?
 - A. The value of electron affinity is always positive
 - B. The value of electron affinity is always negative
 - C. The value of first electron affinity is always positive
 - D. The value of first electron affinity is always negative
- 42. The bond which is based on attractive forces between oppositely charged ion is:
 - A. Covalent bond
 - B. Dative bond
 - C. Ionic bond
 - D. Metallic bond
- 43. Which statement is incorrect regarding a chemical bond?
 - A. Bond is formed by the overlapping of half-filled orbitals
 - B. Bond is formed by the attraction of positive and negative ions
 - C. Bond formed by the overlapping of "s" orbital is strong
 - D. Bond formed by the large sized atoms is strong
- 44. The carbonates of alkali metals are soluble in water except
 - A. K_2CO_3
 - B. Li_2CO_3
 - C. Na_2CO_3
 - D. Rb_2CO_3

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- 45. The nitrides of alkaline earth metals hydrolyse with water to form:
 - A. NH_3
 - B. H_2
 - C. N_2
 - D. NO
- 46. The flame colour of Ca in flame test is:
 - A. Orange red
 - B. Golden yellow
 - C. Red
 - D. Pink
- 47. Which of the following is the most stable metal carbonate?
 - A. $BaCO_3$
 - B. $MgCO_3$
 - C. $CaCO_3$
 - D. $SrCO_3$
- 48. The binding energy of transition metal increase upto group:
 - A. 8B
 - B. 7B
 - C. 9B
 - D. 10B
- 49. Isomerism due to shifting of proton from one atom to another in a same molecule is known as:
 - A. Metamerism
 - B. Tautomerism
 - C. Position
 - D. Functional
- 50. Iso-Butyl alcohol has following carbon attached to hydroxy group:
 - A. Tertiary
 - B. Secondary
 - C. Quaternary
 - D. Primary
- 51. Oxidation of alcohol gives:
 - A. Amine
 - B. Alkene
 - C. Aldehyde
 - D. Alkyne

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- 52. Butanone on oxidation with $K_2Cr_2O_7 / H_2SO_4$ forms:
 - A. Acetic acid
 - B. Acetic acid & Ethane
 - C. Methane & Propanoic acid
 - D. Propanoic acid & Methanoic acid
- 53. Hydrolysis of Nitriles produces:
 - A. Carboxylic acid
 - B. Aldehydes
 - C. Ketones
 - D. Esters
- 54. Acetic anhydride is a product of acetic acid, as a result of the following reaction:
 - A. Reduction
 - B. Oxidation
 - C. Esterification
 - D. Esterification
- 55. Which of the following enzyme is raised in rickets?
 - A. Lactic dehydrogenase
 - B. LDH-I
 - C. Phosphatase
 - D. Alkaline phosphatase
- 56. For a gaseous reaction, the increase in pressure will shift the equilibrium in a direction:
 - A. Decreased concentration
 - B. Increased concentration
 - C. Decreased volume
 - D. Increased volume
- 57. Acidic buffer consist of:
 - A. Strong acid and salt of a weak base
 - B. Weak acid and salt of a strong base
 - C. Strong acid and salt of a strong base
 - D. Weak acid and salt of a weak base
- 58. The pH of human blood is maintained between:
 - A. 7.35 to 7.45
 - B. 7.50 to 7.65
 - C. 7.00 to 7.25
 - D. 7.85 to 7.95

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- 59. The buffer solution is not formed for:
 - A. $NH_4OH + NH_4Cl$
 - B. $CH_3COOH + CH_3COONa$
 - C. $C_6H_5COOH + C_6H_5COONa$
 - D. $HCl + NaCl$
- 60. In the reaction $H_2 + CO_2 \rightleftharpoons H_2O + CO$ the decrease in the concentration of CO_2 will shift equilibrium:
 - A. Towards left
 - B. Towards right
 - C. Nothing happens to the equilibrium
 - D. Equilibrium will shift towards the reactants
- 61. At equilibrium the concentration of reactants and product become:
 - A. Zero
 - B. Constant
 - C. Infinite
 - D. None
- 62. The affect of temperature on the rate of a reaction is given by:
 - A. Henderson's equation
 - B. General gas equation
 - C. Arrhenius equation
 - D. Vander Waal's equation
- 63. In a reversible reaction, catalyst lowers the activation energy of the:
 - A. Forward reaction
 - B. Reverse reaction
 - C. Forward as well as reverse reaction
 - D. Forward reaction but increases that of the reverse reaction
- 64. The rate of reaction:
 - A. Increases as the reaction proceeds
 - B. Decreases as the reaction proceeds
 - C. Remains the same as the reaction proceeds
 - D. May decrease or increase as the reaction proceeds
- 65. 0.5 molar solution of NaOH contains:
 - A. 40g NaOH in 100g solution
 - B. 80g NaOH in 100g solution
 - C. 10g NaOH in 100g solution
 - D. 10g NaOH in 100g water

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- 66. The breakdown of a substance with current is:
 - A. Thermolysis
 - B. Catalysis
 - C. Electrolysis
 - D. Photolysis
- 67. Which of the following is balanced redox equation?
 - A. $Na + Fe^{2+} \rightarrow Na^{+} + Fe$
 - B. $Zn + Ag^{+} \rightarrow Zn^{2+} + Ag$
 - C. $3Na + Fe^{2+} \rightarrow 3Na^{+} + Fe$
 - D. $2Zn + Ag^{+} \rightarrow 2Zn^{2+} + Ag$
- 68. Stronger is the oxidizing agent, greater is the:
 - A. Oxidation potential
 - B. Reduction potential
 - C. Redox potential
 - D. EMF of cell
- 69. The bonding in Sodium (Na) is:
 - A. Metallic
 - B. Ionic
 - C. Covalent
 - D. Co-ordinate Covalent
- 70. Which of the following Halogens molecules has maximum bond energy?
 - A. F-F
 - B. Cl-Cl
 - C. Br-Br
 - D. I-I
- 71. Half atmospheric pressure is:
 - A. 400 torr
 - B. 50622 Pa
 - C. 101.3 Pa
 - D. 5.5 pounds
- 72. The values of S.T.P for a gas are:
 - A. 273.16 K, 101.3 Pa
 - B. 0°C, 101.3 Pa
 - C. 273.15 K, 101.3 Pa
 - D. 273.15 K, 101.3 Pa

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- 73. The expression $PV = nRT$ represents the:
 - A. Dalton's law
 - B. Avogadro's law
 - C. General gas equation
 - D. Vander Waal's equation
- 74. Pressure remaining constant, at which temperature volume of gas will become twice to the volume at 0°C?
 - A. 546 °C
 - B. 200 °C
 - C. 546 °K
 - D. 273 °K
- 75. A graph between volume and temperature gives a straight line which cuts the temperature axis at:
 - A. 0°C
 - B. 273°C
 - C. 546°C
 - D. -273°C
- 76. Which of the following is not a cause for effusion of gases?
 - A. Movement of particles through small opening
 - B. Movement of particles from high pressure to low pressure
 - C. Movement of particles due to escaping tendency one by one
 - D. Movement of particles due to collision among themselves
- 77. Upon which factor vapour pressure is independent:
 - A. Temperature
 - B. Intermolecular forces
 - C. Density of liquid
 - D. Surface area of liquid
- 78. Solid water is expanded _____ times when it is compared with same volume of liquid water:
 - A. 9
 - B. 5
 - C. 6
 - D. 2
- 79. Molar heat of vaporization is the amount of heat required to convert one mole of:
 - A. A liquid into its vapours at its boiling point
 - B. Liquid into its vapours
 - C. Solids into vapours
 - D. Solid into liquid at its boiling point

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- 80. At transition point of crystalline solid, substance exists:
 - A. In one solid geometrical form
 - B. In two solid and liquid state
 - C. In dynamic equilibrium between two crystalline forms
 - D. In one solid geometrical form only
- 81. Some substances lack definite heats of fusion. These substances are:
 - A. Isomorphs
 - B. Polymorphs
 - C. Amorphous solids
 - D. Crystalline solids
- 82. Thermal conductivity of metals is due to:
 - A. Layered structure of metals
 - B. Freely moving electrons
 - C. Loosely held metal atoms
 - D. Vibrational movement of metals
- 83. Ice floats on the surface of water due to:
 - A. Larger bond length
 - B. Cubic structure
 - C. Weak intermolecular forces
 - D. Expansion in the structure of ice
- 84. In a reversible reaction, which parameter would not affect at equilibrium?
 - A. Temperature
 - B. Pressure
 - C. Volume
 - D. Catalyst
- 85. By which of the following factors equilibrium state is attained earlier?
 - A. Temperature
 - B. Pressure
 - C. Concentration
 - D. Catalyst

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- 86. Many elements have fractional atomic masses. This is because:
 - A. Atomic masses are average masses of isotopes
 - B. Atomic masses are average masses of isotopes
 - C. Atomic masses are average masses of isotopes proportional to their abundance
 - D. Atomic masses are average masses of isotopes
- 87. Mass of 1 molecule of O_2 is:
 - A. $6.02 \times 10^{23} g / 32$
 - B. $32 / 6.02 \times 10^{23} g$
 - C. 32g
 - D. 0.32g
- 88. The number of moles of CO_2 which contain 8.0 g of oxygen are:
 - A. 1.0
 - B. 4.50
 - C. 0.50
 - D. 0.25
- 89. Identify the correct option for the empirical formula for both compounds:
 - A. H_2O & $H_2C_2O_4$
 - B. H_2O & $H_2C_2O_4$
 - C. H_2O & H_2SO_4
 - D. $C_2H_2O_2$ & CH_3COOH
- 90. 1 mole of any substance contains _____ particles:
 - A. 6.02×10^{23}
 - B. 6.02×10^{24}
 - C. 6.02×10^{22}
 - D. 3.01×10^{23}
- 91. What are the Avogadro's number of particles in 0.25 moles of CO_2 ?
 - A. 6.022×10^{23}
 - B. 1.505×10^{23}
 - C. 2.00×10^{23}
 - D. 1.505×10^{23}
- 92. The charge on one kg of electron is:
 - A. $1.7588 \times 10^{11} C$
 - B. $1.65 \times 10^{11} C$
 - C. $9.1096 \times 10^{11} C$
 - D. $9.1 \times 10^{11} C$

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- 93. Which of the following fundamental particles have same mass/kg?
 - A. Electron, neutrino
 - B. Electron, proton
 - C. Proton, neutrino
 - D. Neutron, proton
- 94. The lightest positive rays obtained is from:
 - A. Hydrogen gas
 - B. Helium
 - C. Neon
 - D. Air
- 95. The amount of energy associated with quantum of radiation is directly proportional to:
 - A. Photon
 - B. Wavelength
 - C. Frequency
 - D. Velocity
- 96. X-rays are defined as:
 - A. Electromagnetic radiations of high mass number
 - B. Electromagnetic radiations of very high frequency
 - C. Electromagnetic radiations of high wavelength
 - D. Electromagnetic radiations of high energy
- 97. Which of the following orbital will be filled first than 4p?
 - A. 4s
 - B. 2p
 - C. 3d
 - D. 1s
- 98. Maximum _____ electrons can be placed in one orbital:
 - A. 1
 - B. 2
 - C. 3
 - D. 4
- 99. Mass of electron in a.m.u is:
 - A. 1.0073
 - B. 1.0087
 - C. 5.485×10^{-4}
 - D. 9.1×10^{-31}
- 100. Starting point of Kelvin scale is:
 - A. 0K
 - B. -400 K
 - C. -273 K
 - D. -273.15 K

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