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JSTSE : PREVIOUS YEARS

(CHEMISTRY : 2015)

51. Arrange the following in increasing order of their intermolecular force of attraction:

(i) Salt
(ii) Water
(iii) Carbondioxide

(a) iii < ii < i (b) i < ii < iii
(c) ii < iii < i (d) iii < i < ii

Ans. (a)

52. Separation method used for separating two miscible liquids:

(a) Distillation (b) Evaporation
(c) Separating funnel (d) Chromatography

Ans. (c)

53. A compound of carbon, hydrogen and nitrogen contains these elements in the ratio of 9 : 1 : 3.5, if its molecular mass is 108 u what is its molecular formula?

(a) C_2H_2N (b) C_3H_4N
(c) C_2H_2N (d) $C_6H_8N_2$

Ans. (d)

54. The correct chemical formula of the given compounds: Aluminium Phosphate, Ammonium Carbonate and Sodium Sulphite are:

(a) $Al_2(PO_4)_3$,$(NH_4)_2CO_3$,Na_2SO_4 (b) $AlPO_4$, $NH_4(CO_3)_2$, Na_2SO_3
(c) $Al(PO_4)_3$, $(NH_4)_2$ CO_3, Na_2SO_4 (d) Al_2PO_4,$(NH_4)_2CO_3$,Na_2SO_s

Ans. (b)

55. The process of respiration is:

(a) Oxidation reaction which is endothermic
(b) Reduction reaction which is endothermic
(c) Combination reaction which is exothermic
(d) Oxidation reaction which is exothermic

Ans. (d)

56. Orthoboric Acid used as mild antiseptic for eyes is:

(a) H_3BO_2 (b) $H_2B_4O_7$
(c) $B(OH)_3$ (d) $Na_2B_4O_7$

Ans. (c)

57. Chemical symbol of Antimony is:

(a) As (b) Sb
(c) At (d) Am

Ans. (b)

58. Which chemical is not used for preventing coloured food material:

(a) SO_2 (b) Vit-C
(c) Sodium benzoate (d) BHA

Ans. (b)

59. Identify the species having the same number of valence electrons:

(a) O^-, Cl^- (b) O^{-2}, N^{+3}
(c) Ne, Ar (d) Na, Mg

Ans. (c)

60. The table given below gives information about four unknown substances (Room temperature = 30°(C)

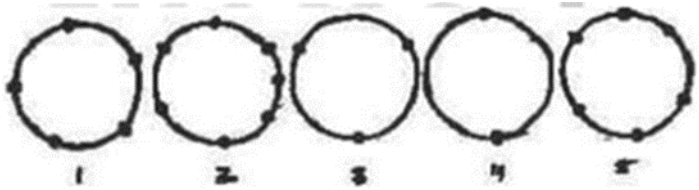
Substance	M: Pt (°C)	S. Pt(°C)
A	-188	-40
B	-110	24
C	16	117
D	37	340

Which of the following substance is a volatile liquid?

(a) A (b) B
(c) C (d) D

Ans. (b)

61. The diagram given below show the electron arrangement in the outer shell of 1, 2, 3, 4 and 5. All the elements are from period 3 of the periodic table:



Which two elements form a covalent compound with ZZ_2type formula

(a) 5 and 2 (b) land 2
(c) 3 and 4 (d) land 5

Ans. (a)

62. Which weigh the maximum?

(a) 2.24 L of CO_2at STP
(b) $6.022 \times 10_{23}$ molecules of CO_2
(c) $6.022 \times 10_{23}$ atoms of carbon
(d) 10 g of CO_2

Ans. (b)

63. Glyptal is an example of:

(a) Soap
(b) Detergent
(c) Polymer
(d) Fibre

Ans. (c)

64. In solid state, molar mass of Sulphur is:

(a) 16 g
(b) 32 g
(c) 256 g
(d) 128 g

Ans. (c)

65. Silver articles become black when exposed to air. It is due to the formation of:

(a) Silver Oxide
(b) Silver Nitrate
(c) Silver Chloride
(d) Silver Sulphide

Ans. (d)

66. 4.4 g of an unknown gas occupies 2.24 L of volume under STP conditions. The gas may be

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

Ans. (a)

67. 2.5 L of 1 M NaOH solution is mixed with 3L of 0.5 M NaOH solution. The molarity of resulting solution is:

(a) 0.08 M
(b) 1.0 M
(c) 0.73 M
(d) 0.50 M

Ans. (c)

68. The label of a breakfast cereal showed that it contained 110 mg of sodium per 100 g of the cereal. The mass percent of sodium in the cereal is:

(a) 1.10%
(b) 0.110%
(c) 0.011%
(d) 11.0%

Ans. (b)

69. The formula or phosphate salt of a metal is MPO_4. The formula of its nitrate salt will be:

(a) MNO_3
(b) $M(NO_3)_2$
(c) $M_2(NO_3)_3$
(d) $M(NO_3)_3$

Ans. (d)

70. At higher altitude (mountains) people add common salt to water to boil potatoes. This is done to:

(a) Increase boiling point of water (b) Decrease boiling point of water

(c) Cook salty potatoes (d) None of the above

Ans. (a)

71. Mercury is used in thermometers because it has:

(a) Lowest heat of fusion

(b) Lowest specific heat among all the liquids

(c) High specific heat among all the liquids

(d) Highest Latent heat of fusion

Ans. (b)

72. Which of the following will not show tyndall effect:

(a) Blood (b) Starch solution

(c) $CuSO_4$ solution (d) Sulphur solution

Ans. (c)

73. Valency of phosphorous is:

(a) 1,3,5 (b) Only 3

(c) Only 5 (d) 3 and 5 both

Ans. (d)

74. Arrange the following in order of increasing their calorific value:

(i) Petrol (ii) Wood

(iii) Cow dung cake (iv) Biogas

(a) $a < b < c < d$ (b) $b < a < d < c$

(c) $c < b < a < d$ (d) $d < b < a < c$

Ans. (c)

75. Florescent tube glows because of:

(a) Plasma (b) Phosphorous

(c) Sulphur (d) Hydrogen

Ans. (a)

76. Number of Aluminium ions present in 0.051 g of $A1_2O_3$

(a) 6.022×10^{22} ions (b) 6.023×10^{23} ions

(c) 6.023×10^{21} ions (d) 6.022×10^{20} ions

Ans. (d)

77. The residue obtained after destructive distillation of wood is:

(a) Coke (b) Charcoal

(c) Coal tar (d) Ash

Ans. (a)

78. Which among the following fuels has the highest calorific value?

(a) Coal (b) Kerosene

(c) Biogas (d) Hydrogen

Ans. (d)

79. A colloidal solution in which both the dispersed phase and dispersion medium are liquids is:

(a) Milk (b) Butter

(c) Shaving cream (d) Jelly

Ans. (a)

80. Which of the following statement is correct for the melting of ice?

(a) At 0°C, water exists only in the solid state

(b) At 0°C water exist in solid as well as in liquid state

(c) At 0°C vapour pressure of ice is equal to vapour pressure of liquid water

(d) Both (b) and (c) are correct

Ans. (d)

81. Identify the oxide which reacts with HCl and NaOH both:

(a) Al_2O_3 (b) CO_2

(c) Na_2O (d) CaO

Ans. (a)

82. Which of the following metals does not react with dil Sulphuric acid but reacts with a solution of Ferrous sulphate:

(a) Cu (b) Zn

(c) Fe (d) Mg

Ans. (a)

83. Geeta poured 20 g of salt into 200 ml of water in beaker. She stirred the water to dissolve the salt completely. Then she heated the mixture until it was reduced to half. How many grams of salt can be recovered from remaining solution:

(a) 0 g (b) 10 g

(c) 20 g (d) 40 g

Ans. (c)

84. Which of the following is not an indicator:

(a) Litmus (b) Turmeric (Haldi)

(c) Phenolphthalein (d) Sodium hydroxide

Ans. (d)

85. Match the following:

(i)	Bakelite	(a)	prepared by using wood pulp
(ii)	Rayon	(b)	used for making parachutes
(iii)	Nylon	(c)	used to make electrical switches
(iv)	Terylene	(d)	fabric do not wrinkle easily

(a) i - c, ii - a, iii - b, iv – d (b) i - a, ii - b, iii - c, iv - d

(c) i - b, ii - c, iii - d, iv – a (d) i - c, ii - a, iii - d, iv - b

Ans. (a)

86. Among the following - has highest density:

(a) Air (b) Exhast from chimney

(c) Cotton (d) Honey

Ans. (d)

87. Acid present in 'spinach':

(a) Oxalic acid (b) Lactic acid

(c) Tartaric acid (d) Formic acid

Ans. (a)

88. In completer combustion of fuel gives x. Burning or coal and diesel release y, which is extremely suffocating gas. Identify x and y respectively:

(a) CO_2, NO_2 (b) NO_2, CO_2

(c) CO, SO_2 (d) SO_2, CO_2

Ans. (c)

89. A student was given an unknown solution in a test tube. When he added universal indicator solution to test tube, it turned violet. The unknown solution is most likely to be:

(a) Baking soda solution (b) Starch solution

(c) Caustic soda solution (d) Vinegar solution

Ans. (c)

90. The ionic radii of N^{3-} ,O^{2-} ,F^{-} , Na^{+} follow the decreasing order:

(a) $N^{3-} > O^{2-} > F^{-} > Na^{+}$ (b) $N^{3-} > Na^{+} > O^{2-} > F^{-}$

(c) $Na^{+} > O^{2-} > N^{3-} > F^{-}$ (d) $O^{2-} > F^{-} > Na^{+} > N^{3-}$

Ans. (a)