ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION





SOLUTION-39(CLASS-12) <u>TOPIC</u>- SOLUTION <u>SUBTOPIC</u>- SOLUTION SUBJECT – CHEMISTRY DURATION – 30 mins

F.M. - 15 DATE -08.07.20

1.1 The molality of pure water is-(a) 55.5 (b) 50.5 (c) 18 (d) 60.5 Ans. a

1.2 The number of moles of NaCl in 3 litres of 3M solution is -

(a) 1 (b) 3 (c) 9 (d) 27 **Ans. c**

1.3 4L of 0.02 M aqueous solution of NaCl was diluted by adding one litre of water. The molality of the resultant solution is-

(A) 0.004 (b) 0.008 (c) 0.012 (d) 0.016 **Ans. d**

1.4 Low concentration of oxygen in the blood and tissues of people living at high altitude is due to-

(a) low temperature (b) low atmospheric pressure (c) high atmospheric pressure

(d) both low temperature and high atmospheric pressure

Ans. b

1.5 Concentration H_2SO_4 is 98 % H_2SO_4 by mass has d = 1.84 g cm⁻³. Volume of acid required to make one litre of 0.1 M H_2SO_4 is-

(a) 5.55 ml (b) 10 ml (c) 20 ml (d) 30 ml Ans. a

1.6What is mole fraction of solute in 1.00 m aqueous solution? (a) 0.0354 (b) 0.0177 (c) 0.177 (d) 1.770

Ans. b

1.7When 1 mole of benzene is mixed with 1 mole of toluene (vapour pressure of benzene – 12.8 kPa, Toluene = 3.85 kPa)-

- (a) Thevapour will contain equal amount of benzene and toluene.
- (b) Not enough information is given for prediction.

(c) The vapour will contain a higher percentage of benzene.(d) The vapour will contain higher percentage of toluene.Ans. c

1.8Which of the following is incorrect for an ideal solution?

(a) $\Delta H_{mix} = 0$ (b) $\Delta V_{mix} = 0$ (c) $\Delta P = P_{obs} - P_{calculated} = 0$ (d) $\Delta G_{mix} = 0$ Ans. d

1.9 If molality of dilute solution is doubled, the value of molal depression constant (K_f) will be
(a) halved (b) tripled (c) unchanged (d) doubled
Ans. c

1.10Mole fraction of glycerine $C_3H_5(OH)_3$ in solution containing 36 g of water and 46 g of glycerine is-(a) 0.46 (b) 0.40 (c) 0.20 (d) 0.36 Ans. c

1.11 Out of molality (m), molarity (M), formality (F) and mole fraction (x), those which are independent of temperature are-

(a) M, m (b) F, x (c) m, x (d) M, x Ans. c

1.12 Which of the following condition is not satisfied by an ideal solution?

(a) $\Delta H_{mixing} = 0$ (b) $\Delta V_{mixing} = 0$ (c) Raoult's Law is obeyed(d) Formation of an azeotropic mixture **Ans. d**

1.13 The boiling point of an azeotropic mixture of water and ethanol is less than that of water and ethanol. The mixture shows-

(a) no deviation from Raoult's Law (b) positive deviation from Raoult's Law(c) negative deviation from Raoult's Law (d) that the solution is unsaturatedAns. b

1.14With rise in temperature the solubility of a gaseous solute within liquid solvent-

a) Increasesb) Decreases c) Remains unaffected d) None of the above **Ans. b**

1.15 Which among the following is not a colligative property?

a) Viscosity b) Osmotic pressure c) elevation in boiling pointd) Depression in freezing point Ans. a

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