ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

SOLUTION-43(CLASS-12)

TOPIC- SOLUTION

SUBTOPIC- COLLIGATIVE PROPERTIES

SUBJECT – CHEMISTRY **F.M. - 15**

DURATION – 30 mins **DATE -18.07.20**

1.1 **Which one of the following will exhibit highest osmotic pressure at 25°C?**
a) KCl b) Glucose c) Urea d) Calcium chloride
Ans. d

1.2 **What is the freezing point of 0.05 molal solution of a non-electrolyte in water?**
a) + 3.72°C b) – 0.093°C c) - 186°C d) -93°C
Ans. b

1.3 **If ethylene glycol is added to water in radrator cars during winter then it would lead to:**
a) Reducing specific heat b) Reducing viscosity c) Lowering in freezing point d) Lowering in boiling point
Ans. c

1.4 **Haemolysis is the phenomenon on which cells are swelled up and then burst if placed in a:**
a) Isotonic solution b) None of these c) Hypertonic solutions d) Hypotonic solution
Ans. d

1.5 **Two solutions C and D are separated by a semi-permeable membrane. If liquid flows from D to C then.**
a) Both have same concentration b) D is less concentrated than C c) D is more concentrated than C d) None of these
Ans. b

1.6 **When a thin slice of sugar beet is placed in a concentrated solution of NaCl then sugar beet will…….**
a) Dissolve in solution b) Neither absorb nor lose water c) Absorb water from solution
d) Lose water from its cell
Ans. d

1.7 **…….. aqueous molal solution have highest freezing point.**
a) Urea b) Barium chloride c) Potassium bromide d) Aluminium sulphate
Ans. a

1.8 **When a solute is dissolved in water it shows:**
a) Decrease in freezing point of water b) Decrease in boiling point of water
c) Increase in vapour pressure of water d) all of the above
Ans. a

1.9 **When sucrose is added to water, what is the change observed in boiling and freezing points of water?**
a) Both boiling point and freezing point decreases
b) Both boiling point and freezing point increases
c) Boiling point increases and freezing point decreases
d) Boiling point decreases and freezing point increases
Ans. c

1.10 **……. Shows the presence of strong intermolecular forces in a liquid.**
a) A low heat of vaporization b) A low critical temperature c) A low vapour pressure
d) A low boiling point
Ans. c

1.11 **60 ml of an acidic solution is neutralized by 30 ml of 0.4 N base. The strength of acid solution is:**
a) 0.1 N b) 0.3 N c) 0.4 N d) 0.2 N
Ans. d

1.12 **The molarity of 4.6 N H_2SO_4 solution is:**
a) 0.46 M b) 0.23 M c) 4.6 M d) 2.3 M
Ans. d

1.13 **The osmotic pressure of 0.020 M solutions of KI and of sucrose ($C_{12}H_{22}O_{11}$) are 0.565 atm and 0.345 atm respectively. The Van't Hoff factor for KI is:**
a) 0.63 b) 1.63 c) 1.90 d) 0.90
Ans. b

1.14 **A solution contains 20.0g of glucose, $C_6H_{12}O_6$, in 100 g of water. What is the freezing point of the solution (Kf = 1.86°C / m)?**
a) – 2.06°C b) – 0.20°C c) + 0.32°C d) – 0.32°C
Ans. a

1.15 **Which of the following does not changes with the change in temperature? i. Mole fraction. ii. Molality.**
a) None of the above b) Both i & ii c) i d) only ii
Ans. b

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