



CHEMISTRY

49. The lowering of vapour pressure of the solvent takes place
A. Only when solute is non-volatile
B. Only when the solute is volatile
C. Only when the solute is non-electrolyte
D. All
50. For a dilute solution, Raoult's law states that
A. The lowering of vapour pressure = to X_{solute}
B. The relative lowering of vapour pressure = to the X_{solute}
C. The relative lowering vapour pressure is α to the amount of solute
D. The vapour pressure is = to the X_{solvent}
51. If the osmotic pressure of 1 M urea is π , what will be the osmotic pressure for 0.1M NaCl
A. π , B. 0.1π ,
C. 2π , D. 0.2π ,
52. Which of the following would lose weight on exposure to air?
A. Con. H_2SO_4
B. Anhydrous sodium carbonate
C. Solid NaOH
D. A saturated solution of CO_2
53. The sum of mole fraction of A, B & C in a solution containing 0.1 mole of each of A, B & C is
A. 0.1 B. 0.3
C. 1.0 D. 1/3
54. When attraction between A---B is more than that of A---A and B---B, then it will show --- deviation from Raoult's law;
A. Positive B. Negative
C. No deviation D. Cannot be predicted
55. Which of the following solution pairs can be separated in to its pure components by fractional distillation?
A. Benzene—Toluene B. Water --- HNO_3
C. Water - HCl D. Water - $\text{C}_2\text{H}_5\text{OH}$
56. Which statement is incorrect about osmotic pressure (P), volume (V) and temperature (T)?
A. $P \propto 1/V$ if T is constant
B. $P \propto T$ if V is constant
C. $P \propto V$ if T is constant
D. PV is constant if V is constant
57. Which of the following is correct for a solution showing positive deviation from Raoult's law?
A. $\Delta V = +ve$, $\Delta H = +ve$
B. $\Delta V = -ve$, $\Delta H = -ve$
C. $\Delta V = +ve$, $\Delta H = -ve$
D. $\Delta H = -ve$, $\Delta H = +ve$
58. The azeotropic mixture of water and HCl boils at 108.5°C . When this mixture is distilled, it is possible to obtain
A. Pure HCl
B. Pure water
C. Pure water as well as pure HCl
D. Neither HCl nor H_2O in their pure states
59. Which pair from the following will not form an ideal solution ?
A. $\text{CCl}_4 + \text{SiCl}_4$ B. $\text{H}_2\text{O} + \text{C}_4\text{H}_9\text{OH}$
C. $\text{C}_2\text{H}_5\text{Br} + \text{C}_2\text{H}_5\text{I}$ D. $\text{C}_6\text{H}_6 + \text{C}_7\text{H}_8$
60. On freezing an aqueous solution of sugar, the solid that starts separating out is
A. Sugar
B. Ice
C. Solution with the same composition
D. Solution with different composition
61. A glucose solution is to be injected into the blood stream. It must have the same --- as the blood stream
A. Molarity B. Vapour pressure
C. Osmotic pressure D. Viscosity
62. Which one of the following is incorrect ?
A. A solution freezes at a higher temp, than the pure solvent
B. A solution boils at a higher temp, than the pure solvent.
C. 0.1 M NaCl solution and 0.1 M sugar solution
D. Osmosis cannot take place without a semi permeable membrane
63. The molal elevation constant is the ratio of the elevation in the boiling point to
A. Molarity
B. Molality
C. Mole fraction of the solute
D. Mole fraction of the solvent
64. Which of the following will have the highest Freezing point at 1 atm pressure ?
A. 0.1 M NaCl solution
B. 0.1 M sugar solution
C. 0.1 M BaCl_2 solution
D. 0.1 M FeCl_2 solution