



CHEMISTRY

65. A molal solution is the one that contains one mole of a solute in
A. 1000 g of the solvent
B. one litre of the solution
C. one liter of the solvent
D. 22.4L of the solution
66. Addition of common salt to a sample of water will
A. Increase its F.P. and increase the B.P.
B. Decreases the F.P. and increases the B.P.
C. Increases both F.P. and B.P.
D. Decreases both B.P. and F.P.
67. The relative lowering of vapour pressure is equal to the ratio between the numbers of
A. Solute molecules to the solvent molecules
B. Solute molecules to the total molecules in the solution
C. Solvent molecules to the total molecules in the solution
D. Solvent molecules to the total no. of ions of the solute
68. The molecular weight of sodium chloride determined by osmotic pressure method will be
A. Equal to 58.5
B. Greater than 58.5
C. Less than 58.5
D. None of these, as this method cannot be used
69. 12g of urea is dissolved in 1 L of water and 68.4 g of sucrose is dissolved in 1L of water. The lowering of vapour pressure of the first case is
1. Equal to second
2. Greater than second
3. Less than second
4. Double that of second
70. As a result of osmosis the volume of the solution
A. Gradually increases
B. Gradually decreases
C. Is not affected
D. Any of the three
71. Which of the following is not correct for ideal solution?
A. $\Delta S_{\text{mixing}} = 0$ B. $\Delta V_{\text{mixing}} = 0$
C. $\Delta H_{\text{mixing}} = 0$ D. It obeys Raoult's law
72. What happens when isotonic solution of A (mol. Mass. 342) and B (mol. Mass. 60) are put into communication through semi permeable membrane?
A. Transfer of solvent from solution of A to that of B
B. Transfer of solvent from solution of B to that of A
C. No transfer of solvent from solution of A to that of B takes place
D. Change in temperature of the solutions takes place
73. Which among the following will show maximum osmotic pressure?
A. 1M NaCl B. 1 M MgCl_2
C. 1 M $(\text{NH}_4)_3\text{PO}_4$ D. 1 M Na_2SO_4
74. Which one of the following aqueous solution will have the lowest freezing point?
A. 0.1 molal solution of urea
B. 0.1 molal solution of sucrose
C. 0.1 molal solution of NaCl
D. 0.1 molal solution of CaCl_2
75. The depression of freezing point is directly proportional to
A. Mole fraction of the solution
B. Molarity of the solution
C. Molality of the solution
D. molarity of the solvent
76. In a mixture A and B components show negative deviation as
A. $\Delta V_{\text{mix}} > 0$
B. $\Delta H_{\text{mix}} < 0$
C. A---B interaction is weaker than A—A and B---B interaction
D. None
77. An aqueous solution of glucose is 10% in strength. The volume in which one-gram mole of it is dissolved will be
A. 18 L B. 9 L
C. 0.9 L D. 1.8 L
78. The vapour pressure of water at room temperature is 23.8 mm of Hg. The vapour pressure of an aqueous solution of sucrose with mole fraction 0.1 is equal to
A. 23.9 mm of Hg B. 24.2 mm of Hg
C. 21.42mm of Hg D. 21.44 mm of Hg
79. The vapour pressure of a solvent A is 0.80 atm. When a non-volatile substance B is added to this solvent its vapour pressure drops to 0.6 atm. The mole fraction of B in the solution is
A. 0.25 B. 0.50
C. 0.75 D. 0.90
80. At a particular temperature, the vapour pressure of two liquids A and B are respectively 120 and 180 mm of Hg. If 2 moles of A and 3 moles of B are mixed to form an ideal solution, the V.P. of the solution at the same T will be
A. 156 mm of Hg B. 145 mm of Hg
C. 150 mm of Hg D. 108 mm of Hg