

139. How much BaCl_2 would be needed to make 250 ml of a solution having the same concentration of Cl^- as one containing 3.78 g NaCl per 100 ml? (Ba = 137)
- (a) 16.8 g (b) 67.2 g
(c) 33.6 g (d) 22.4 g
140. Upon heating a litre of semi-molar HCl solution, 2.675 g of hydrogen chloride is lost and the volume of the solution shrinks to 750 ml. The molarity of resultant solution is
- (a) 0.569 M (b) 0.5 M
(c) 0.42 M (d) 1.707 M
141. A volume of 500 ml of a 0.1M solution of AgNO_3 added to 500 ml of 0.1M solution of KCl. The concentration of nitrate ion in the resulting solution is
- (a) 0.05 M
(b) 0.1 M
(c) 0.2 M
(d) Reduced to zero
142. In 1200 g solution, 12 g urea is present. If density of the solution is 1.2 g/ml, then the molarity of the solution is
- (a) 0.2 M (b) 10 M
(c) 0.167 M (d) 12 M
143. Mole fraction of solute in an aqueous solution of NaOH is 0.1. If the specific gravity of the solution is 1.4, the molarity of the solution is
- (a) 6.93 (b) 0.1
(c) 71.4 (d) 0.14
144. What should be the density of an aqueous solution of urea (molar mass = 60 g/mol) such that the molality and molarity of the solution become equal?
- (a) 1.0 g/ml (b) 1.6 g/ml
(c) 1.06 g/ml (d) 1.16 g/ml
145. A quantity of 10 g of acetic acid is dissolved in 100 g of each of the following solvents. In which solvent, the molality of solution is maximum? Assume no any dissociation or association of acetic acid in the solvent.
- (a) Water
(b) Ethanol
(c) Benzene
(d) Same in all solvents
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- (a) Water
(b) Ethanol
(c) Benzene
(d) Same in all solvents
147. An aqueous solution has urea and glucose in mass ratio 3:1. If the mass ratio of water and glucose in the solution is 10:1, then the mole fraction of glucose in the solution is
- (a) $\frac{1}{110}$ (b) $\frac{9}{110}$
(c) $\frac{3}{110}$ (d) $\frac{100}{110}$
148. The volume strength of a sample of H_2O_2 is '8.96 vol'. The mass of H_2O_2 present in 250 ml of this solution is
- (a) 0.4 g
(b) 27.2 g
(c) 6.8 g
(d) 108.8 g
149. What is the percentage of 'free SO_3 ' in a sample of oleum labelled as '104.5%'?
- (a) 20% (b) 40%
(c) 60% (d) 80%
150. Which of the following percentage strength is not possible for a sample of oleum?
- (a) 104% (b) 109%
(c) 118% (d) 127%