

129. A volume of 10 ml of an oxide of nitrogen was taken in a eudiometer tube and mixed with hydrogen until the volume was 28 ml. On sparking, the resulting mixture occupied 18 ml. To this mixture, oxygen was added when the volume came to 27 ml and on explosion again, the volume fall to 15 ml. Find the molecular weight of the oxide of nitrogen originally taken in eudiometer tube. All measurements were made at STP.
- (a) 22 (b) 44
(c) 88 (d) 176
130. V_1 ml of unknown gas (A) + V_2 ml of O_2 \rightarrow ($V_1 + V_2$) ml of CO_2 . Gas 'A' may be
- (a) CO
(b) (CO + CO_2) in equal proportion
(c) $C_{12}O_9$
(d) C_3O_2
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Concentration Terms

131. How many grams of solute should be added in 100 g water to get a solution of density 1.2 g/ml and strength 5% (w/v)?
- (a) 5 g (b) 6 g
(c) 4.17 g (d) 4.35 g
132. An aqueous solution of glucose is 10% (w/v). The volume in which 1mole of glucose is dissolved, will be
- (a) 18 l (b) 9 l
(c) 0.9 l (d) 1.8 l
133. A quantity of 50 g of water is saturated with HCl gas to get 75 ml of solution containing 40% HCl, by mass. The density of solution formed is
- (a) 1.11 g/ml (b) 0.4 g/ml
(c) 0.9 g/ml (d) 0.99 g/ml
134. The concentration of same aqueous solution of glucose is determined by two students—Sawan and Gautam. Sawan reported the concentration as 20% (w/w) and Gautam reported the concentration as 25% (w/v). If both the concentrations are correct, then the density of solution is
- (a) 0.8 g/ml
(b) 1.0 g/ml
(c) 1.25 g/ml
(d) 1.33 g/ml
135. How much $Ca(NO_3)_2$, in mg, must be present in 50 ml of a solution with 2.35 ppm of Ca?
- (a) 0.1175 (b) 770.8
(c) 4.7 (d) 0.48
136. The legal limit for human exposure to CO in the work place is 35 ppm. Assuming that the density of air is 1.3 g/l, how many grams of CO are in 1.0 l of air at the maximum allowable concentration?
- (a) 4.55×10^{-5} g
(b) 3.5×10^{-5} g
(c) 2.69×10^{-5} g
(d) 7.2×10^{-5} g
137. What volume of 0.8 M- $AlCl_3$ solution should be mixed with 50 ml of 0.2 M- $CaCl_2$ solution to get a solution of chloride ion concentration equal to 0.6 M?
- (a) 5.56 ml (b) 100 ml
(c) 50 ml (d) 4.89 ml
138. D5W refers to one of the solutions used as an intravenous fluid. It is a 5% by mass solution of dextrose, $C_6H_{12}O_6$ in water. The density of D5W is 1.08 g/ml. The molarity of the solution is
- (a) 0.3 M (b) 0.6 M
(c) 0.28 M (d) 0.26 M