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| **Karan Arora** **R.L. Chemistry Classes M: 99968-68554**  **Class : XII**  **“Solution”** |

**Worksheet – 1**

1. Calculate the molarity and normality of a solution containing 5 g of NaOH in 450 mL solution.
2. Calculate the molarity and normality of a solution containing 9.8 g of H2SO4 in 250 cm3 of the solution.
3. Find the molarity and molality of a 15 % solution of H2SO4 (density of H2SO4 = 1.020 g/cm3). (At. mass : H = 1, O = 16 , S = 32 amu).
4. A 6.9 M solution of KOH in water contains 30 % by mass of KOH. Calculate the density of the KOH solution. (Molar mass of KOH = 56 g/mol)
5. A sugar syrup of weight 214.2 g contains 34.2 g of sugar (C12H22O11). Calculate (i) molal concentration (ii) mole fraction of sugar in a syrup.
6. Calculate the molality of 1 L solution of 93 % H2SO4 (weight/volume). The density of the solution is 1.84 g/mL.
7. Concentrated sulphuric acid has a density of 1.9 g/ mL and is 99 % H2SO4 by weight. Calculate the molarity of H2SO4 in this acid.
8. H2SO4 used in lead storage cell is 38 % by mass and has a density of 1.3 g/cm3. Calculate its molarity.
9. What is the Molarity of a barium chloride solution prepared by dissolving 3.5 g of BaCl2.2H2O in enough water to make 500mL of solution? (At. Mass : Ba = 137, Cl = 35.5)
10. Concentration of glucose in normal blood is 90 mg per 100 mL. What is the Molarity of the glucose in blood?
11. Hydrochloric acid is sold commercially as 12 M solution. How many moles and how many grams of HCl are in 300 mL of 12 M solution?
12. Calculate the Molarity of a 96% by mass H2SO4 solution, whose density is 1.78 g/cm3 ?