

UNIT- 9 – SOLUTIONS**I. Answer in brief (2/3 marks)**

1. Define (i) molality (ii) Normality
2. What is a vapour pressure of liquid? What is relative lowering of vapour Pressure?
3. State and explain Henry's law
4. State Raoult law and obtain expression for lowering of vapour pressure when non-volatile solute is dissolved in solvent.
5. What is molal depression constant? Does it depend on nature of the solute?
6. What is osmosis?
7. Define the term 'isotonic solution'.

II. Answer in a paragraph (5 marks)

1. Explain the effect of pressure on the solubility.
2. A sample of 12 M concentrated hydrochloric acid has a density 1.2 gL^{-1} Calculate the molality.
3. A 0.25 M glucose solution at 370.28 K has approximately the pressure as blood does. What is the osmotic pressure of blood?
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4. Calculate the molality of a solution containing 7.5 g of glycine ($\text{NH}_2\text{-CH}_2\text{-COOH}$) dissolved in 500 g of water.
5. How many moles of solute particles are present in one litre of 10^{-4} M potassium sulphate?