Guru Gobind Singh public school ,Chas

Class 12.   (Chemistry assignment--- 2020)

1)In an ideal solution what type of deviation shows the formation of maximum boiling azeotropes?

2)State the law correlating the pressure of a gas and its solubility in liquid .state and application of this law .

3)State raoult's law for the following containing volatile component .write two difference between ideal solution and non ideal solution.

4) H_2S a toxic gas with rotten egg like smell, is used for qualitative analysis. if the solubility of H_2S in water at STP is 0.195 m, calculate Henry laws constant.

5) The vapour pressure of pure liquid A&B are 450 and 700 mm Hg,at 350k. Find out the composition of the liquid mixture if total vapour pressure is 600 mm Hg. Also find the composition of the vapour phase.

6) define: a) isotonic solution b) colligative properties c) vant Hoff factor d) abnormal molar mass

7) calculate the freezing point of solution containing 60 gram of glucose in 250 gram of water. (Kf of water=1.86K kg mol-1)

8)A solution prepared by dissolving 8.95 mg of a gene fragment in 35 ml of water has an osmotic pressure of 0.335 torr at 25° C. Assuming gene fragment is non electrolyte, determine its molar mass.

9) 1gm of non electrolyte solute when dissolved in 50 gram of benzene lower the freezing point of benzene by 0.40 K. find the molar mass of solute. (Kf for benzene = 5.12K kg mol-1)

10 30 gram of urea dissolve in 846 gram of water calculate the vapour pressure of water for the solution if vapour pressure of pure water at 298 kelvin is 23.8 mm Hg.

11) Define azeotropes. what type of azeotropes is formed by positive deviation from Raoult's law ?Give

   an example.

12)Explain why aquatic species are more comfortable in cold water rather than in warm water.

13) Define term osmotic pressure .Describe how the molecular mass of a substance can be determined by a method based on measurement of osmotic pressure?

14) what happen when we place the blood cell in water (hypertonic solution)?Give reason.

15)How is the vapour pressure of solvent affected when a non-volatile solute is dissolved in it?