**KIIT WORLD SCHOOL**

**ASSIGNMENT**

**CLASS 12 CHEMISTRY**

**SOLUTIONS**

**KNOWLEDGE BASED**

**Q1. state two characteristics of ideal solutions.**

**Q2. State Henry Law? What is the significance of KH?**

**Q3. What does an ideal solution mean at the molecular level?**

**Q4. Under what conditions does the Roults law holds good?**

**Q5. State the condition resulting in reverse osmosis.**

**Q6. State Roult’s Law. Giving suitable examples explain the positive and negative deviations from it.**

**Q7. Derive an expression relating the relative lowering of vapour pressure for a solution to the mole fraction of a solute in it when the solvent alone is volatile.**

**UNDERSTANDING BASED**

**Q8.WHY is the elevation in boiling point not used for determining the molecular mass of proteins?**

**Q9. Outer hard shells of two eggs are removed. One of the egg is placed in pure water and the other is placed in saturated solution of NaCl. What will be observed and why?**

**Q10. Why is the vapour pressure of an aqueous sugar solution lower than that of pure water?**

**Q11. Cutting onions taken from the fridge is more comfortable than cutting onions lying at room temperature. Explain. Why?**

**Q12. Two liquids A and B on mixing produce a warm solution. Which type of deviation from Roult’s Law does it show?**

**APPLICATION/SKILL**

**Q13. Why is glycol and water mixture used in car radiator while driving through a colder region having sub-zero temperature?**

**Q14. Arrange the following aqueous solutions in increasing order of boiling points:**

**.001 M NaCl, .001M urea, .001M MgCl2, .01M NaCl**

**Q15. Equal volumes of two solutions contain 50g of NaCl and 50g of KCl respectively. Are their molarities equal?**

**Q16. How is molarity of a solution different from its molality? What is effect of temperature on both?**

**Q17. Two liquids A and B boils at 145®C and 190®C respectively. Which of these has higher vapour pressure at 80®C?**

**Q18. The freezing point of a solution containing .2g of acetic acid in 20g of benzene is lowered by o.45®C. calculate.**

1. **Molar mass of acetic acid from this data**
2. **Vant hoff factor**

**( for benzene, Kf= 5.12 K kg/mol)**

**What conclusions can you draw from the value of van’t hoff factor obtained?**

**Q19. A solution containing 8g of a substance in 100g of diethyl ether boils at 36.86®C, whereas pure ether boils at 35.60®C. Determine the molecular mass of the solute. ( for ether, Kb= 2.02 K kg/mol)**

**HOTS**

 **Q20. Why are the aquatic species more comfortable in cold water in comparison to warm water?**

**Q21. Which has highest freezing point out of these?**

**1M glucose, 1M NaCl, 1MCaCl2**

**Q22. What will happen to freezing point of potassium iodide(aq) when mercuric iodide is added to the solution?**

**VBQ**

**Q23. A person was diagnosed with high blood pressure. Doctor advised him to take less amount of salt and if possible take low sodium salt.**

**i) Why did doctor gave such an advice?**

**ii) What values do you learn from this?**

**Q24. Perfectly ideal solution are very rare. Nearly all solutions show either positive or negative deviations. What values do you learn from this in life?**

**Q25. Students went to Kashmir for an excursion in winter and saw the roads covered with snow. It was being cleared by shovelling it. One group of students advised to sprinkle salt and another group advised to use calcium chloride. The first suggestion was adopted.**

**i) why was the first suggestion adopted?**

**ii) what value is associated with the above incident?**

**ATTEMPT ALL INTEXT AND BACK EXERCISE QUESTIONS OF NCERT**