

CHEMISTRY-11	Chapter#09(Complete) Test-6		
	Name:	Class:	ID:
Date: / /	Marks Total: 40	Marks Obtained:	
Time Allowed: 75 Min.			

Maximum Marks: 08 **(OBJECTIVE TYPE)** Time Allowed: 10 Min.

NOTE: Tick The Correct Option:

- An azeotropic mixture of two liquids boils at a lower temperature than either of them when:
 - It is saturated.
 - It shows positive deviation from Raoult's law.
 - It shows negative deviation from Raoult's law.
 - It is metastable.
- Melting point of ice can be lowered by the use of:
 - LiCl
 - BeCl₂
 - NaCl
 - AgCl
- The concentration unit preferably used to express the impurities of substances in water:
 - ppm
 - Molarity
 - Molality
 - Mole fraction
- Water dissolves ether up to the extent of:
 - 1.2%
 - 6.5%
 - 5%
 - 30%
- Which solution will cause greater lowering of vapor pressure?
 - 10% w/w glucose solution
 - 10% w/w sucrose solution
 - 10% w/w urea solution
 - All will cause equal lowering of V.P.
- Which liquid mixture can be separated by fractional distillation?
 - Methyl alcohol-water
 - Ethyl alcohol-water
 - Water-HCl
 - None
- Which substance will show discontinuous solubility curve?
 - Ce₂(SO₄)₃
 - Pb(NO₃)₂
 - CaCl₂
 - None
- What is the correct order with respect to hydration energy of ions?
 - Cu²⁺ > Mg²⁺ > Ag⁺
 - Mg²⁺ > Ag⁺ > Cu²⁺
 - Ag⁺ > Mg²⁺ > Cu²⁺
 - Mg²⁺ > Cu²⁺ > Ag⁺

Maximum Marks: 32 **(SUBJECTIVE TYPE)** Time Allowed: 65 Min.

SECTION-I

Q.2: Give brief answers to the following questions: (20)

- Define phase.
- 100 g of 98% H₂SO₄ has volume of 54.34 cm³ of H₂SO₄ (density = 1.84 g cm⁻³). Explain with reason.
- Calculate the molality of 8% w/w NaCl solution.
- The total volume of the solution by mixing 100 cm³ of water with 100 cm³ of alcohol may not be equal to 200 cm³. Justify.
- What is Raoult's law? Give its three definitions with mathematical expressions.
- How is the solubility of a substance determined?

- vii. Why some salts ($\text{CaCl}_2 \cdot 6\text{H}_2\text{O}$ or $\text{Na}_2\text{SO}_4 \cdot 10\text{H}_2\text{O}$) show discontinuous solubility curves?
- viii. Why do the boiling points of solvents increase due to the presence of non-volatile solutes?
- ix. Freezing points are depressed due to the presence of solutes. Justify.
- x. Differentiate between hydration and hydrolysis.

SECTION-II

NOTE: Attempt All Questions:

(12)

- Q.3: What are azeotropic mixtures? What type of deviation is shown by them? Explain with the help of graph.
- Q.4: What are colligative properties? Why are they called so?
- Q.5: Define hydrolysis. Why the aqueous solution of NH_4Cl is acidic and that of CH_3COONa is basic?