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**PERIODIC TEST**

**GRADE – XII MARK - 20**

**SUBJECT – CHEMISTRY TIME – 40 MINS**

**GENERAL INSTRUCTIONS:**

1. All Questions are compulsory.
2. Question number 1 to 5 carry 1 mark.
3. Question number 6, 7 carry 2 marks.
4. Question number 8, 9 carry 3 marks.
5. Question number 10 carry 5 marks.

1. The density of a 3.60M sulphuric acid solution that is 29% sulphuric acid by mass will be

a) 1.45 b) 1.64

c) 1.88 d) 1.22

2. Low concentration of oxygen in the blood and tissues of people living at high altitudes is due to -----------------

a) low temperature b) low atmospheric pressure

c) high atmospheric pressure d) both low temperature and pressure

3. At equilibrium the rate of dissolution of a solid solute in a volatile liquid solvent is --------

a) less than the rate of crystallization

b) greater than the rate of crystallization

c) equal to the rate of crystallization

d) Zero

4. On dissolving sugar in water at room temperature, solution feels cool to touch. Under which of the following cases dissolution of sugar will be most rapid?

a) Sugar crystals in cold water

b) Sugar crystals in hot water

c) Powdered sugar in cold water

d) Powdered sugar in hot water

5. If two substances A and B have PA0 : PB0 = 1:2 and have mole fraction in solution 1:2, then mole fraction of A in vapours is

a) 0.33 b) 0.25

c) 0.52 d) 0.20

6. What is the significance of Henry’s Law constant?

7. Why is the vapour pressure of a solution of glucose in water lower than that of water?

8. Calculate the resulting molarity of the solution that is obtained by adding 5 g of NaOH to 250ml of M/4 NaOH solution (density = 1.05 g/cm3). The density of the resulting solution is 1.08 g/cm3.

9. a. Why is the solubility of Glauber’s salt first increases upto 32.40C and then decreases?

b. How is the molality of a solution different from its molarity?

10. a. What is the mole fraction of a solute in 2.5 m aqueous solution?

b. State Henry’s Law correlating the pressure of a gas and its solubility in a solvent and mention two applications for the law.