

I. Choose the correct answer.

8 x 1=8

1. The number of components in a binary solution is

- a. 2 b. 3
- c. 4 d. 3

2. A solution in which no more solute can be dissolved in a definite amount of solvent at a given temperature is called

- a. Saturated solution b. Un saturated solution
- c. Super saturated solution d. Dilute solution

3. A solution in which no more solute can be dissolved in a definite amount of solvent at the given temperature is called _

- a) saturated solution b) unsaturated solution
- c) super saturated solution d) dilute solution

4. Identify the non-aqueous solution a sodium chloride In water

- a) sodium chloride in water b) glucose in water
- c) copper sulphate in water d) sulphur in carbon-di-sulphide

5. When pressure is increased at constant temperature the solubility of gases in liquid.

- a) no change b) increases
- c) decreases d) no reaction

6. solubility of NaCl in 100 ml water is 36 g If 25 g of salt is dissolved in 100 ml of water how much more salt is required for saturation.

- a) 12 g b) 11 g
- c) 16 g d) 20 g

7. A 25% alcohol solution means

- a) 25 ml alcohol in 100 ml water
- b) 25 ml alcohol in 25 ml water
- c) 25 ml alcohol in 75 ml water
- d) 75 ml alcohol in 25 ml water

8. Deliquescence is due to

- a) strong affinity to water
- b) less affinity to water
- c) strong hatred to water
- d) inertness to water
- d) none of the above

II. Fill in the blanks

3x1=3

1. Example for liquid in solid type solution is _____
2. Solubility is the amount of solute dissolved in _____ g of solvent.
3. Volume percentage decreases with increases in temperature because _____.

III. Match the following

(2)

1. Blue vitriol – $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
2. Gypsum – CaO
3. Deliquescence – $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$
4. Hygroscopic – NaOH

IV. True or False: (If false give the correct statement)

2 x 1 = 2

1. The molecular formula of green vitriol is $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$
2. When Silica gel is kept open, it absorbs moisture from the air, because it is hygroscopic in nature

V. Short answer (any 10) of the following.

10 x 2 = 20

1. Give an example each
 - i) gas in liquid
 - ii) Solid in liquid
 - iii) solid in solid
 - IV) gas in gas
2. What is aqueous and non-aqueous solution? Give an example.
3. Define - Solution.
4. Define volume percentage.
5. Define Hydrated salt.
6. Write notes on saturated solution.
7. Define solubility.

8. A solution was prepared by dissolving 25 g of sugar in 100 g of water. Calculate the mass percentage of solute.

9. The aquatic animals live more in cold region Why?

10. Classify the following substances into deliquescent, hygroscopic.

Conc. Sulphuric acid, Copper sulphate penta hydrate, Silica gel, Calcium chloride and Gypsum salt.

11. Vinu dissolves 50 g of sugar in 250 ml of hot water, Sarath dissolves 50 g of same sugar in 250 ml of cold water. Who will get faster dissolution of sugar? and Why?

12. Will the cool drinks give more fizz at top of the hills or at the foot? Explain

VI. Long answer(any 3) of the following

3 × 5= 15

1. a) What happens when $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ is heated? Write the appropriate equation

b) Define solubility

2. A solution is prepared by dissolving 45 g of sugar in 180 g of water. Calculate the mass percentage of solute.

3. Write notes on various factors affecting solubility.

4. Differentiate hygroscopic substance and deliquescence.