Exercise II

Q1: Explain the following terms:

a) **Solution**
A solution is a homogeneous mixture of two or more substance whose composition can be varied.

b) **Solute**
A solute is a substance that dissolves in other substances.

c) **Solvent**
Solvent is a medium in which a solute dissolves.

Q2 How do the solubility of so a solid and a gas get affected by

a) Increase in temperature

ans. The solubility of a solid solute generally increases with an increase in temperature.
The solubility of a gas decreases with an increase in temperature.

b) Increase in preasure

ans. The Preasure has practically no effect on the solubility of a solid in water.
solubility of gas increases with an increase in preasure.

Q3. What is meant by ~~ttm~~ :

a) ~~Unsaturated~~
A solution in which more of the solute can be dissolved at a given temperature is called an unsaturated solution.

b) Saturated
Saturated solution that can not dissolve any more of ~~the~~ the solute at a

given temperature is called a ~~sat~~ saturated solution.

b)

c) Supersaturated solution
A saturated solution that contains more solute than it can hold is at room temperature is called super saturated solution.

Q4. Differentiate between:

a) solution and ~~sus~~ suspension

Solution	Suspension
• It is ~~a~~ homogeneous	It is ~~a~~ heterogeneous.
• It is ~~a~~ transparent	It is opaque
• Particle ~~s~~ size less than 10^{-10} m	Particle size greater than 10^{-7} m

b) suspension and colloid

Suspension	Colloid
• The solute particles is visible	Solute particles can be seen with the help of a powerful microscope.
• It is ~~tra~~ opaque	It is translucent.
• Particles settle at bottom of the container	Particles do not settle down.

Q5. Give two examples for each of the following:

a) Hydrated substance - $CuSO_4 \cdot 5H_2O$; $FeSO_4 \cdot 7H_2O$;

b) Crystalline anhydrous substance - Common salt; sugar

c) Drying agent - silica gel, Conc. H_2SO_4

d) Deliquescent substances - $NaOH$, $FeCl_3$

e) ~~Efflorescent~~ Efflorescent substance -
$Na_2SO_4 \cdot 10H_2O \rightarrow Na_2CO_3 \cdot 10H_2O$

f) ~~d~~) colloids - Milk, smoke

g) Solvents other than water - carbon disulphide, carbon tetrachloride