

(1)

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Subject: Basic lab calculation

Q²

Ans = Basic unit:

The (SI) unit is called basic unit. Basic) is independency of linear unit.

Current	A	Ampire
Length	m	meter
Time	s	Second
Temperature	K	Kelvin
Weight		kg
Quantity	mol	mol

Derived unit:

Which are not derived from other unit. Are those unit.

Examples: velocity, Acceleration.

Area: A Volume: $V = \text{Speed} \times \text{Time}$
 $P \cdot T \cdot O$

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mass density.

kg/m^3

Cubic meter m^3 kg per Cubic.

Suspension:

A Suspension is a heterogeneous mixture containing large particles that will settle on standing. Sand in water is an example of a Suspension.

A Solution is a homogeneous mixture of two or more substances has dissolved the other. An example of a Solution is Saltwater.

"OR"

Solute are not dissolvable in solvent in suspend form is called Suspension.

Example:

Soil + water \rightarrow not dissolab - Calcar.

P.T.O

(3)

Super Saturated Solution:

In which we dissolve solute with the help of more heat again and again more and more temperature.

Ionic Solution:

Any substance which, when dissolved in water, separates into pairs of particles (ions) of opposite charge. For example, Sodium Chloride (Common salt) when dissolved in water form positive ion of sodium and negative ion of chloride.

(4)

Q^o(3)

Ans:-

Dilution ratio

Part of
solute to the total
number of part ~~the~~

Example H_2O - milk

100 : 900 = 1:9

(i)

Total Solution.

(ii)

Concentration Solution:

fewer form of Chemical
is Concentration Solution

Concentration dilution:

Is
The addition of solvent,
which decreases the
Concentration of the
solute in the solution.
Concentration is the remo-
val of solvent.

(5)

Q → (4) Serial Dilution:

Ans =

The step wise dilution of a substance is called serial dilution.

It is a method of diluting a stock solution where concentration decrease by the same quantity P_n each successive step.

Exp:

If you add a 1 ml sample to 9 ml of diluent to get 10 ml of solution,

$DF = V_1/V_2 = 1\text{ml} / 10\text{ml} = 1/10.$

(6)

Q(5)

Ans = PH :-

Is a scale of acidity from 0 to 14. It tells how acidic or alkaline substance is. More acidic solutions have lower PH. More alkaline solutions have higher PH. Substance that is neither acidic nor alkaline is neutral solution. Usually have a PH of 7.

PH: The number of hydrogen ions in a solution is called PH.

PH is a really a measure of the relative amount of free hydrogen and hydroxyl ions in the water. The water that has more hydrogen ions is acidic.

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PoH:

Is a measure of the alkalinity of Aqueous Solution at 25°C with PoH equal less than 7 are alkline. PoH greater than 7 are acidic and PoH equal to 7 are neutral.

PoH: The number of hydroxyl ion in a solution is called PoH.

PoH is a measure of hydroxide ion (OH^-) concentration. It is used to express the alklineity of a solution.

Aqueous solution at 25°C with PoH less than 7 are alkline, PoH greater than 7 are acidic and equal 7.

(8)

Q(1)

Ans = Prepare solution:

To Prepare a solution that contains a specified concentration of a substance, it is necessary to dissolve the desired number of moles of solute in enough solvent to give the desired final volume of solution.

Molarity of solution
= $\frac{\text{number of moles of solute}}{\text{Volume of solution}}$

Illustrate this procedure

for a solution of cobalt (II) chloride dihydrate volume of the solvent is not specified in the solution.

(9)

Percent Concentrations

The percent concentration of any solution is most commonly expressed as mass percent.

Mass % of any component of the solution

$$= \frac{\text{Mass of the component in the solution}}{\text{Total mass of the solution}}$$

Volume % of a component =
$$\frac{\text{Volume of the component}}{\text{Total volume of solution}} \times 100$$

The concentration of a solution is most of the time expressed as the number of moles of solute present in 1 liter of solution.