HOMEWORK ASSIGNMENT

(i) Fill up the Gaps:

(1) Atoms are the smallest particle of a element.

(2) Metals have variable positive valency.

(3) The number of atoms present in a molecule of an element is called as atomicity.

(4) The combining capacity of an element is known as valency.

(5) Carbon is the element with valency 4.

(6) The valency of iron in Fe_2O_3 is 3

Fe^{3+} O^{2-}

(ii) Define the following:

(i) Atoms: Atoms are the smallest particle of a element that exhibits all the properties of that element.

(2) Molecule - Molecule is the smallest particle of a pure substance which has independent existence.

(3) Valency - Valency is the combining capacity of an element or of a radical.

(4) Radicals - A radical is an atom of an element or a group of atoms of different elements that behaves as a single unit with a positive or negative charge on it.

(5) Basic Radical - Radicals which have positive charge are called basic radicals. They are also called cations.

Level-2

(1) The valency of Calcium is 2. Write the valencies of other radicals in CaO and $CaCO_3$?

$Ca^{2+}O^{2-}$

+2 -2

$CaCO_3$

$+2 + x - 6 = 0$

$x = 4$

Ans In CaO

Valency of O = -2

In $CaCO_3$

Valency of C = +4

Valency of O = -2.

(2) Differentiate between Acidic Radical and Basic Radical:

Basic Radical	Acidic Radical
(i) Have positive charge and are called cations.	(i) Have negative charge and are called anions.
(ii) All metallic ions and ammonium ion are basic radical.	(ii) Non-metallic ions and non-metallic atoms with negative charge are acidic radicals.

(3) What do you mean by molecular formula of a compound? Give an example.

Ans) A molecular formula of a compound is the symbolic representation of its molecules.

Ex:- One molecule of SO_2 is formed by one atom of element sulphur and two atoms of element Oxygen.

(4) Write two points of difference between atoms and molecules.

Ans) Atoms - (i) Atom is the smallest particle of element.

(ii) May or may not exist independently.

Molecule - (i) Molecule is the smallest particle of a pure substance. (element or compound)

(ii) Has independent existence.

(5) Explain variable valency with an example.

Ans) Certain elements exhibit more than one valency is that means they show variable valency.

Example:

Metal	Radicals	Valency
Iron	Ferrous [Iron (II)]	2
	Ferric [Iron (III)]	3

(6) Write two points of difference between Molecules and radicals.

Molecules	Radicals
(i) It is the smallest particle of an element or compound.	i) Radical is an atom of an element or a group of atoms of different elements that behave as a single unit with a positive or negative charge on it.
(ii) Does not carry any charge	ii) Carries either a positive or negative charge