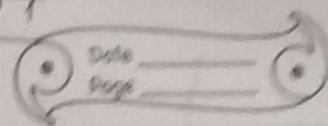


# HOMEWORK ASSIGNMENT



(i) Fill up the Gaps:

- (1) Atoms are the smallest particles of an 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  $\text{Fe}_2\text{O}_3$  is 3  
 $\text{Fe}^{3+} \text{O}^{2-}$

(ii) Define the following:

(i) Atoms - Atoms are the smallest particles of an 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.

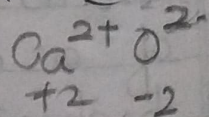
(5) Basic Radical - Radicals which have positive charge are called basic radicals. They are also called cations.

### Level-2

(1) The valency of Calcium is 2. Write the valencies of other radicals in  $\text{CaO}$  and  $\text{CaCO}_3$ ?

$$+2 + x - 6 = 0$$

$$x = 4$$





Ans In  $\text{CaO}$

Valency of  $\text{O} = -2$

In  $\text{CaCO}_3$

Valency of  $\text{C} = +4$

Valency of  $\text{O} = -2$

(2) Differentiate between Acidic Radical and Basic Radical.

Basic Radical	Acidic Radical
(i) Have positive charge and are <sup>called</sup> <del>called</del> 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 <del>non-metallic</del> 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  $\text{SO}_2$  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; that means they show variable valency.

Example:

Metal	Radicals	Valency
Iron	Ferrous [Iron (I <sup>+</sup> )]	2
	Ferric [Iron (II <sup>+</sup> )]	3

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

Molecules

(i) It is the smallest part of an element or a compound.

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(ii) Does not carry any charge

Radicals

Radical is an atom or a group of atoms of different elements that behave as a single unit with a positive or negative charge on it.

(i) Carries either a positive or negative charge