



Brain International School

Vikas Puri, New Delhi

ASSIGNMENT NO. 4

SUBJECT: CHEMISTRY

CLASS-IX

OCTOBER'2025

CHAPTER 3 : ATOMS AND MOLECULES

1. MULTIPLE CHOICE QUESTIONS :

(i) Laws which explain the formation of many oxides by nitrogen is :

- (a) Law of conservation of mass
- (b) Law of Multiple proportions
- (c) Law of definite proportions
- (d) None of these

(ii) The molecular formula of potassium nitrate is _____.

- (a) KNO_3
- (b) KNO_2
- (c) KNO
- (d) KON

2. This question consists of two statements-ASSERTION (A) and REASON(R), answer the question selecting the appropriate option given below

- a) Both A and R are true and R is the correct explanation for A
- b) Both A and R are true and R is not the correct explanation for A
- c) A is true but R is false
- d) A is false but R is true

(a) **Assertion :** In water compound ratio of mass of hydrogen to oxygen is always 1:8.

Reason : Standard weight of hydrogen molecule is 18g.

3. Read the following paragraph and answer the following questions :

Atom can be described as in building houses the building blocks of all matter are atoms. A molecule is in general a group of two or more atoms that are chemically bonded together, that is, tightly held together by attractive forces. A molecule can be defined as the smallest particle of an element or a compound that is capable of independent existence and shows all the properties of that substance. Atoms of the same element or of different elements can join together to form a molecule. The number of atoms constituting a molecule is known as its atomicity. Metals and some other elements, such as carbon, do not have a simple structure but consist of a very large and indefinite number of atoms bonded together.

- (i) Define : (a) Atom (b) Molecule
- (ii) What is the atomicity of (a) CO_2 (b) NH_3 (c) H_2SO_4
- (iii) Write the postulates of Dalton's Atomic Theory.

4. Answer the following questions :

1. Give three examples of monoatomic molecules.
2. Calculate the molecular masses of the following : (i) $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$
(ii) $\text{K}_2\text{Cr}_2\text{O}_7$
(iii) $\text{C}_{12}\text{H}_{22}\text{O}_{11}$
3. Write the chemical formula of the following : (i) Hydrogen Chloride (ii) Water
4. Give three examples of monoatomic molecules.
5. Ammonia is a compound .Justify.