CHAPTER-3 | Atoms and Molecules

QUIZ-01

1. **Who proposed the Law of Conservation of Mass?**
   A. Dalton B. Lavoisier
   C. Proust D. Rutherford (B)

Explanation : Antoine Lavoisier established the Law of Conservation of Mass, stating that mass is neither created nor destroyed in a chemical reaction.

2. **What is the atomicity of a sulphur molecule?**
   A. Monoatomic B. Diatomic
   C. Triatomic D. Polyatomic (D)

Explanation : A sulphur molecule is polyatomic, meaning it contains multiple atoms bonded together.

3. **What is the symbol of sodium derived from?**
   A. English name B. Latin name
   C. Greek name D. Place of discovery (B)

Explanation : The symbol Na is derived from the Latin name of sodium, "Natrium."

4. **What is the atomic mass of oxygen?**
   A. 12 u B. 14 u
   C. 16 u D. 18 u (C)

Explanation : The atomic mass of oxygen is 16 u as per the standard atomic mass chart.

5. **What is the molecular mass of H_2O?**
   A. 15 u B. 16 u
   C. 17 u D. 18 u (D)

Explanation : Water (H_2O) has 2 hydrogen atoms (1 u each) and 1 oxygen atom (16 u), so the total is 2×1 + 16 = 18 u.

6. **Which of the following is a polyatomic ion?**
   A. Na^+ B. Cl^-
   C. NH_4^+ D. O^{2-} (C)

Explanation : NH_4^+ (Ammonium) is a polyatomic ion composed of multiple atoms with a net charge.

7. **Which law states that elements are always present in fixed mass ratios in compounds?**
   A. Law of Multiple Proportions
   B. Law of Conservation of Mass
   C. Law of Constant Proportions
   D. Law of Atomicity (C)

Explanation : The Law of Constant Proportions says that in a compound, elements are combined in fixed ratios by mass.

8. **What is the formula of calcium hydroxide?**
   A. CaOH B. Ca(OH)
   C. $CaOH_2$ D. $Ca(OH)_2$ (D)

Explanation : The valency of calcium is 2 and that of hydroxide is 1, so the formula is $Ca(OH)_2$.

9. **Which of the following is a correct pair of element and its symbol?**
   A. Potassium – Po B. Iron – Ir
   C. Silver – Ag D. Sodium – So (C)

Explanation : The correct symbol for silver is Ag, derived from its Latin name "Argentum."

10. **Which type of bond holds atoms in a molecule together?**
    A. Magnetic force B. Gravitational force
    C. Chemical bond D. Electric current (C)

Explanation : Atoms in a molecule are held together by chemical bonds.