BRAIN INTERNATIONAL SCHOOL

Chemistry Assignment **Class: IX** **OCT'24**

1. MULTIPLE CHOICE QUESTIONS:

(i) A box contains some identical red colour balls labelled as A each weighing 2 g. Another box contains identical blue colored balls, labelled as B, each weighing 5 g. In the combinations AB, AB_2, A_2B and A_2B_3 which is applicable?

(a) Law of Definite proportion
(b) Law of multiple proportion
(c) Law of conservation of mass
(d) None of the above

(ii) What is the chemical formula of sodium carbonate?

(a) Na_2CO_3 (b) $NaHCO_3$ (c) $NaCO_3$ (d) Na_2HCO_3

(iii) The atomic symbol of Iron is ————.

(a) I (b) Fe (c) Ir (d) Au

2. ASSERTION-REASON QUESTIONS:

Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below :

(i) Both A and R are true and R is correct explanation of the assertion.
(ii) Both A and R are true but R is not the correct explanation of the assertion.
(iii) A is true but R is false.
(iv) A is false but R is true.

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

Reason : Standard weight of hydrogen molecule is 8 gram .

(b) Assertion : Atoms are always taking part in chemical reaction.

Reason : Atoms are the catalyst.

3. Answer the question on the basis of your understanding of the following paragraph .

According to Dalton's atomic theory, all matter whether an element, a compound, or a mixture is composed of small particles called atoms which can neither be created nor destroyed during a chemical reaction. Dalton's theory provides a simple explanation for the laws of chemical combination. He used his theory to explain the law of conservation of masses, the law of constant proportions, and the law of multiple proportions, based on various postulates of the theory. Dalton was the first scientist to use the symbols for the elements in a very specific sense. When he used a symbol for an element he also meant a definite quantity of that element, that is one atom of that element.

(i) Which postulate of Dalton's atomic theory is the result of the law of conservation of mass?

(ii) Which postulate of Dalton's atomic theory explains law of definite proportions?

(iii) "If 100 g of calcium carbonate (whether in the form of marble or chalk) is decomposed, 56 g of calcium oxide and 44 g of carbon dioxide are formed." Which law of chemical combination is illustrated by this statement?

4. Answer the following questions:

1. Calculate the molecular masses of the following : (i) $CuSO_4.5H_2O$ (ii) $K_2Cr_2O_7$ (iii) $C_{12}H_{22}O_{11}$

2.Write the symbols of the following : (i) Aluiminium (ii) Silver (iii) Mercury (iv) Sodium (v) Manganese (vi) Magnesium

3.Write the valencies of the following : (i) Hydrogen (ii) Oxygen (iii) Barium (iv) Chlorine (v) Sodium (vi) Nitrogen

4. Write the chemical formula of the following :(i) Hydrogen Chloride (ii) Water

5. Give three examples of monoatomic molecules.

6. What is the basic difference between atoms and molecules ?