I- Write the word(s) that best complete(s) each statement.

1. The substance(s) to the left of the arrow in a chemical equation is (are) called ..... .
2. The arrow in a chemical equation means ..... .
3. The number of atoms of each element on both sides of a chemical equation must always be ..... .
4. In a chemical reaction ..... are neither created nor destroyed, they are ..... .

II- Write "T" if the statement is true, and "F" if the statement is false, then change the underlined word(s), to make the statement true.

1. The substance(s) formed as a result of a chemical reaction (is) are called reactant(s).
2. A chemical equation uses symbols and formulas to represent a reaction.
3. A number written in front of a chemical symbol or formula is a subscript.
4. According to the law of conservation of molecules, matter can either be created or destroyed in a chemical change.

III- Write the word equation for each of the following reactions:

1. The sugar (glucose), which is present in many fruits and vegetables, reacts in the presence of a certain enzyme to produce ethanol and carbon dioxide.

2. An antacid tablet has sodium carbonate as the active ingredient. It is used to relief stomach burn. The reaction of the antacid with stomach acid, hydrochloric acid, gives sodium chloride, water and carbon dioxide.

3. Solutions of sodium hypochlorite are sold as a bleach (such as Clorox). They are prepared by the reaction of chlorine with sodium hydroxide. The products are sodium chloride, water, and sodium hypochlorite.

IV- Answer the following questions:

1. Write the balanced chemical equation for each of the following word equations:

a) Hydrogen + Nitrogen → Ammonia

b) Carbon monoxide + Oxygen → Carbon dioxide

c) Carbon dioxide + Calcium hydroxide → Calcium carbonate + Water

2. Balance the following chemical equations:

a) $C_6H_{12}O_{6\ (aq)} \rightarrow C_2H_5OH_{\ (l)} + CO_{2\ (g)}$

b) $Na_2CO_{3\ (s)} + HCl_{\ (aq)} \rightarrow NaCl_{\ (aq)} + H_2O_{\ (l)} + CO_{2\ (g)}$

c) $NaOH_{\ (aq)} + Cl_{2\ (g)} \rightarrow NaClO_{\ (aq)} + NaCl_{\ (aq)} + H_2O_{\ (l)}$

3. Write the word equation that describes each of the following unbalanced chemical equations:

a) $CH_{4\ (g)} + Cl_2 \rightarrow CCl_{4\ (l)} + HCl_{\ (g)}$

b) $C_6H_{6\ (g)} + O_{2\ (g)} \rightarrow CO_{2\ (g)} + H_2O_{\ (g)}$

c) $MgO_{\ (s)} + HCl_{\ (aq)} \rightarrow MgCl_{2\ (aq)} + H_2O_{\ (l)}$