## 02. CHEMICAL REACTIONS AND EQUATIONS

1. Balance the following chemical equations.

(i)  $Fe_2O_3 + AI \rightarrow Fe + Al_2O_3$ 

- (ii)  $N_2 + O_2 \rightarrow NO$
- (iii)  $\operatorname{AgCl}_2 \rightarrow \operatorname{Ag} + \operatorname{Cl}_2$
- (iv)  $Zn + HCI \rightarrow ZnCI_2 + H_2$
- 2. Identify the type of chemical reactions given below. How can you tell? Give reason.
  - (i)  $CaCO_3 \rightarrow CaO + CO_2$

(ii)  $H_2 + O_2 \rightarrow H_2O$ 

3. Rajesh kept an iron nail into a blue colour aqueous solution. After some time the nail was coated with brown colour. The remaining solution turns into pale green colour. Now answer the following questions.

(i) What is the blue colour solution?

- (ii) What is the brown colour coated substance?
- (iii) Which type of chemical reaction it is ?
- (iv) Write the chemical equation for the reaction.
- 4. Take two beakers and prepare lead nitrate aqueous solution and potassium iodide aqueous solutions. What are the colours of the solutions. Now mix them in another beaker. What happens? What type of chemical reaction it is? What are the products?
- 5. If 40gm of methane is burnt, then how much amount of carbon dioxide is released?
- 6. Balance the following chemical equation.

$$C_2H_6 + O_2 \rightarrow CO_2 + H_2O$$

7. Take two beakers and prepare Sodium sulphate aqueous solution and Barium chloride aqueous solutions. What are the colours of the solutions. Now mix them in another beaker. What happens? What type of chemical reaction it is? What are the products?

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- 8. What are the components in "Stain less steel"?
- 9. How can we identify Oxygen gas in a laboratory?
- 10. How much carbon dioxide is formed when 48 grams of Carbon is burnt?
- 11. Observe the following chemical equation. And answer the questions.

 $Pb(NO_3)_2 + 2 KI \rightarrow PbI_2 + 2KNO_3$ 

- (i) What are the reactants ?
- (ii) What are the products ?
- (iii) Which type of chemical reaction it is ?
- (iv) What is the colour of  $PbI_2$ ?
- 12. A light yellow colour substance (some quantity) on a watch glass is put in the sun light. It changes into gray colour powder.
  - (a) What is the light yellow colour substance?
  - (b) What is the gray colour substance?
  - (c) Which type of chemical reaction it is?
  - (d) Write the chemical equation for the reaction.

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