# UpSchool Edtech Pvt Ltd

## CHEMICAL REACTIONS AND EQUATIONS

### Class 10 - Science

1. Identify the reducing agent in the reaction: **[1]**

   $4NH_3 + 5O_2 \longrightarrow 4NO + 6H_2O$

2. Complete the missing components/variables given as x and y in the reaction: **[1]**

   $CaCO_3$ (s) $\xrightarrow{x}$ CaO(s) + $CO_2$ (g)

3. Identify the type of reaction(s) in the following equations. **[2]**

   i. $CH_4 + 2O_2 \longrightarrow CO_2 + 2H_2O$

   ii. $Pb(NO_3)_2 + 2Kl \longrightarrow 2Pbl_2 + 2KNO_3$

   iii. $CaO + H_2O \longrightarrow Ca(OH)_2$

   iv. $CuSO_4 + Zn \longrightarrow ZnSO_2 + Cu$

4. Consider the following chemical reaction: **[2]**

   "X' + Barium chloride $\longrightarrow \underset{\text{White ppt.}}{'Y'} +$ Sodium chloride

   i. Identify 'X' and 'Y'

   ii. Name the type of reaction.

5. Explain the following in terms of gain or loss of oxygen with two examples each: **[3]**

   a. Oxidation

   b. Reduction

6. Why are decomposition reactions called the opposite of combination reactions? Write equations for these reactions. **[3]**

7. A magnesium ribbon is burnt in oxygen to give a white compound X accompanied by emission of light. If the burning ribbon is now placed in an atmosphere of nitrogen, it continues to burn and forms a compound Y. **[3]**

   (i) Write the chemical formulae of X and Y.

   (ii) Write the balanced chemical equation when X is dissolved in water.

8. What is observed when carbon dioxide gas is passed through lime water. **[5]**

   i. For a short duration

   ii. For a long duration

9. Write balanced chemical equations to explain what happens, when **[5]**

   i. Mercuric oxide is heated.

   ii. Mixture of cuprous oxide and cuprous sulphide is heated.

   iii. Aluminium is reacted with manganese dioxide.

   iv. Ferric oxide is reduced with aluminium.

   v. Zinc carbonate undergoes calcination.