The Air Force School

Class – X Science (Chemistry)

Homework (17th April)

1. Assertion (A) : Following is a balanced chemical equation for the action of steam on iron : $3Fe + 4H_2O \rightarrow Fe_3O_4 + 4H_2$
Reason (R): The law of conservation of mass holds good for a chemical equation.
(a) Both (A) and (R) are true and reason (R) is the correct explanation of the assertion (A)
(b) Both (A) and (R) are true, but reason (R) is not the correct explanation of the assertion (A).
(c) (A) is true, but (R) is false.
(d) (A) is false, but (R) is true.

2.
Calcium oxide reacts vigorously with water to produce slaked lime.
$CaO_{(s)} + H_2O_{(l)} \rightarrow Ca(OH)_{2(aq)}$
This reaction can be classified as
(A) Combination reaction
(B) Exothermic reaction
(C) Endothermic reaction
(D) Oxidation reaction
Which of the following is a correct option?

(a) (A) and (C)
(b) (C) and (D)
(c) (A), (C) and (D)
(d) (A) and (B)

3. In a double displacement reaction such as the reaction between sodium sulphate solution and barium chloride solution:
(A) exchange of atoms takes place
(B) exchange of ions takes place
(C) a precipitate is produced
(D) an insoluble salt is produced
The correct option is
(a) (B) and (D)
(b) (A) and (C)
(c) only (B)
(d) (B), (C) and (D)

4. State the type of chemical reactions, represented by the following equations : (Board Term I, 2014)
(a) $A + BC \rightarrow AC + B$
(b) $A + B \rightarrow C$
(c) $PQ + RS \rightarrow PS + RQ$
(d) $A_2O_3 + 2B \rightarrow B_2O_3 + 2A$

5. Decomposition reactions require energy either in the form of heat or light or electricity for breaking down the reactants. Write one equation each for decomposition reactions where energy is supplied in the form of heat, light and electricity.

6. Why does the colour of copper sulphate solution change when an iron nail is dipped in it? Write two observations. Also, write the chemical equation involved.

7.Write the balanced equation for the. following reaction and identify the type of reaction in each case.
(i) Potassium bromide + Barium iodide—-> Potassium iodide + Barium bromide.
(ii) Hydrogen(g) + Chlorine(g)—-> Hydrogen chloride(g)