MAHESH PUBLIC SCHOOL, JODHPUR

WORKSHEET

CLASS X **Subject : SCIENCE**

Chapter 1: Chemical Reactions and Equations

Answer the following questions:

1. What happens when a milk is left at room temperature during summers? Is it a physical or chemical change?
2. What happens when magnesium ribbon burns in air?
3. Why should a magnesium ribbon be cleaned before burning in air?
4. State one basic difference between a physical change and a chemical change.
5. What is meant by a chemical reaction?

6. $AgNO_3(aq) + NaCl(aq) \rightarrow AgCl(s)\downarrow + NaNO_3(aq)$
   $FeS(s) + H_2SO_4(dil) \rightarrow FeSO_4(aq) + H_2S\uparrow$
   What do these different arrows (↓) and (↑) indicate?
7. Which one of the following is a chemical change and why?
   (*a*) Burning of wax, (*b*) Melting of wax
8. On adding dilute hydrochloric and to copper oxide power, the solution formed is blue green. Predict the new compound formed which is blue green.
9. Giving an example, list two informations which make a chemical reaction more useful (informative).
10. Why do fireflies glow at night?
11. Which among the following are physical or chemical changes?
    (*i*) Evaporation of petrol, (*ii*) Burning of Liquified Petroleum Gas (LPG), (*iii*) Heating of iron to red hot, (*iv*) Curdling of milk, (*v*) Sublimation of solid ammonium chloride.
12. How can we know whether a reaction has taken place or not?

Balancing of Chemical Equation

I. Very Short Answer Type Questions

13. On what basis is chemical equation balanced?
14. Write a balanced chemical equation for the reaction between sodium chloride and silver nitrate, indicating physical state of reactants and products.
15. Balance the following chemical equation:
    $$Pb(NO_3)_2 \rightarrow PbO + NO_2 + O_2$$

II. Short Answer Type Questions-I

16. What happens when dilute hydrochloric acid is added to iron filings? Tick the correct answer.
    (*i*) Hydrogen gas and iron chloride are produced.
    (*ii*) Chlorine gas and iron hydroxide are produced.
    (*iii*) No reaction takes place.
    (*iv*) Iron salt and water are produced.
17. Write a balanced chemical equation with state and symbols for following reactions:
    (*i*) Solutions of barium chloride and sodium sulphate in water react to give insoluble barium sulphate and the solution of sodium chloride.
    (*ii*) Sodium hydroxide solution (in water) reacts with hydrochloric acid solution (in water) to produce sodium chloride solution and water.
18. (*i*) What happens when hydrogen gas burns in the presence of oxygen?
    (*ii*) What happens when calcium burns in the presence of chlorine? Write balanced chemical equation.
19. Aluminium burns in chlorine to form aluminium chloride, a solid. Write a balanced equation for the reaction.
20. Balance the given chemical equations:
    (*i*) $Al(s) + CuCl_2(aq) \rightarrow AlCl_3(aq) + Cu(s)$ (*ii*) $FeSO_4(s) \rightarrow Fe_2O_3(s) + SO_2(g) + SO_3(g)$