6 Chapter

Science class - 7

Physical and Chemical Changes

A. 1. Formation of clouds, melting of wax.
2. Curdling of milk, photosynthesis, rusting of iron

B. 1. (b); 2. (c); 3. (c); 4. (a)

C. 1. (iv); 2. (i); 3. (ii); 4. (v); 5. (iii)

D. 1. absorbed; 2. zinc; 3. irreversible; 4. corrosion; 5. rusting

E.

1. Hydrogen chloride	– HCl	2. Sodium carbonate	– Na_2CO_3
3. Ammonia	– NH_3	4. Glucose	– $C_6H_{12}O_6$
5. Sugar	– $C_{12}H_{22}O_{11}$	6. Copper sulphate	– $CuSo_4$
7. Calcium chloride	– $CaCl_2$	8. Zinc oxide	– ZnO

F.

1. Cobalt	– Co	2. Sodium	– Na
3. Oxygen	– O	4. Nitrogen	– N
5. Iron	– Fe	6. Carbon	– C
7. Copper	– Cu	8. Sulphur	– S
9. Zinc	– Zn	10. Potassium	– K

G. 1. A change in which one or more new substances formed is called chemical change.
Example : (a) curdling of milk ; (b) rusting of iron

2. Melting of ice to form water is a physical change because on heating, ice melts and water evaporates. On cooling, water vapour cools to form water and on further cooling, water freezes to form ice.

3. Characteristics of chemical changes :
(a) The change is irreversible (b) The change is permanent.
(c) Total mass remains the same.

4. Sea water contains 97% of the total water on the Earth. Sea water is saline because it contains salt. In addition to salts, sea water has many impurities. Salinity and impurities in sea water makes it unfit for human consumption.

H. 1. Characteristics of physical change :
(a) During physical change, no new substance is formed.
(b) It is either reversible or irreversible.
(c) During physical change, only physical properties change.
(d) No or very small amount of energy is either absorbed or evolved during a physical change.

2. Characteristics of chemical reaction.
(a) Evolution of Gas, (b) Change in Colour, (c) Formation of Precipitate, (d) Energy change or Transfer of Energy
(a) Evolution of Gas : During a chemical reaction, gas may evolve. If one of the reactants is a liquid, evolution of gas is marked by effervescence (bubbling) in the liquid. The evolution of gas is shown by an arrow pointing upward (↑).