



Time: 45 Minutes

SCIENCE (X) *Anti oxidation*

MM: 20

1. Name the type of chemical reaction represented by the following equation:
(i) $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca}(\text{OH})_2$ ↑
(ii) $3\text{BaCl}_2 + \text{Al}_2(\text{SO}_4)_3 \rightarrow 2\text{AlCl}_3 + 3\text{BaSO}_4$
(iii) $2\text{FeSO}_4 \xrightarrow{\text{Heat}} \text{Fe}_2\text{O}_3 + \text{SO}_2 + \text{SO}_3$ (3)
2. What happens when food materials containing fats and oils are left for a long time? List two observable changes and suggest three ways by which this phenomenon can be prevented. (3)
3. Write one equation each for decomposition reaction where energy is supplied in the form of heat, light and electricity. (3)
4. Why does the colour of copper sulphate solution change when an iron nail is dipped in it? Write two observations. (3)
5. Balance the following reactions:
(i) $\text{NaCl} + \text{AgNO}_3 \rightarrow \text{AgCl} + \text{NaNO}_3$ (Already Balanced) (5)
(ii) $3\text{H}_2 + \text{N}_2 \rightarrow 2\text{NH}_3$ $3\text{H}_2 + \text{N}_2 \rightarrow 2\text{NH}_3$
(iii) $\text{Fe} + \text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + \text{H}_2$ $3\text{Fe} + 4\text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + 4\text{H}_2$
(iv) $\text{CO} + \text{H}_2 \rightarrow \text{CH}_3\text{OH}$ $\text{CO} + 2\text{H}_2 \rightarrow \text{CH}_3\text{OH}$
(v) $\text{Ca}(\text{OH})_2 + \text{CO}_2 \rightarrow \text{CaCO}_3 + \text{H}_2\text{O}$ (Already Balanced)
6. Oxidation is a process which involves:
 (a) addition of oxygen
 (b) addition of hydrogen
 (c) removal of oxygen
 (d) removal of hydrogen (1)
7. What happens when lead nitrate reacts with potassium iodide? (1)
(a) They will not react
(b) A large amount of hydrogen will be released
 (c) Yellow ppt of lead iodide and potassium nitrate will be produced
(d) Evolution of gas will occur
8. When Ag is exposed to air it gets a black coating of:
(a) AgNO_3
(b) Ag_2S
(c) Ag_2O
(d) Ag_2CO_3 (1)