



Q1. Which statements about:  $2\text{PbO} + \text{C} \rightarrow 2\text{Pb} + \text{CO}_2$  are incorrect?

Ans: (ii) (a) and (c) are correct answers.

Q2. Reaction type:  $\text{Fe}_2\text{O}_3 + 2\text{Al} \rightarrow \text{Al}_2\text{O}_3 + 2\text{Fe}$

Ans: (d) Displacement Reaction

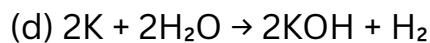
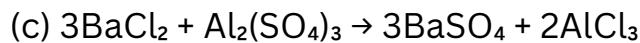
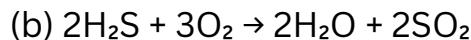
Q3. Dil. HCl + Iron  $\rightarrow$

Ans: (a) Hydrogen gas and iron chloride are produced.

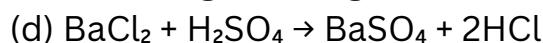
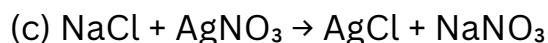
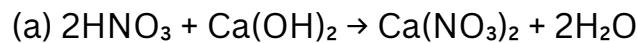
Q4. What is a balanced chemical equation?

Ans: A chemical equation with equal number of atoms of each element on both sides. It's balanced to satisfy the law of conservation of mass.

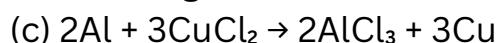
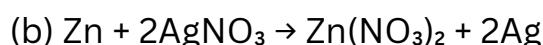
Q5. Translate and balance:



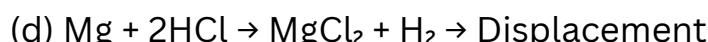
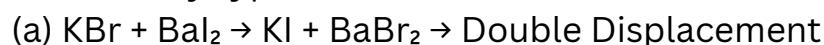
Q6. Balance:



Q7. Balanced equations:



Q8. Identify type of reaction:



Q9. Exothermic vs Endothermic

Exothermic: Releases heat (e.g.  $\text{CH}_4 + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O} + \text{heat}$ )

Endothermic: Absorbs heat/light/electricity (e.g.  $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$ )

Q10. Why respiration is exothermic?

Ans: Glucose breakdown in presence of oxygen releases energy.

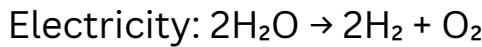
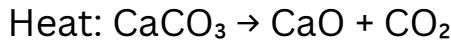
**Q11.** Why are decomposition and combination opposite?

**Ans:** Combination joins substances; decomposition breaks them.

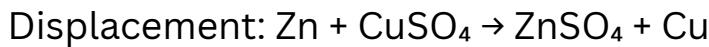
**Examples:**



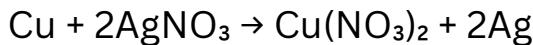
**Q12.** Decomposition types:



**Q13.** Displacement vs Double Displacement

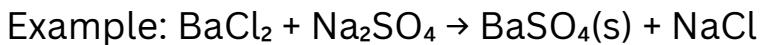


**Q14.** Reaction in refining silver:



**Q15.** What is a precipitation reaction?

**Ans:** Formation of insoluble solid (precipitate).



**Q16.** Define:

(a) **Oxidation:** Gain of  $\text{O}_2$  or loss of H (e.g.,  $\text{Zn} + \text{O}_2 \rightarrow \text{ZnO}$ )

(b) **Reduction:** Loss of  $\text{O}_2$  or gain of H (e.g.,  $\text{CuO} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$ )

**Q17.** Brown element 'X' becomes black on heating

**Ans:** X = Copper; Black compound =  $\text{CuO}$

**Q18.** Why paint on iron articles?

**Ans:** To prevent rusting (corrosion).

**Q19.** Why are fats flushed with nitrogen?

**Ans:** To prevent rancidity by avoiding oxidation.

**Q20.** Define:

**Corrosion:** Metal decay due to environment

**Rancidity:** Spoiling of oils/fats due to oxidation