

Redox Reactions

Set – 1

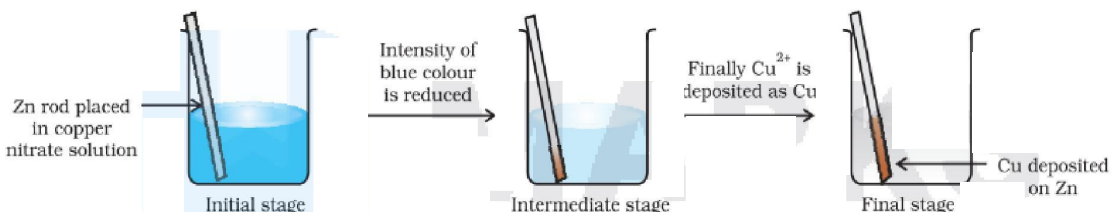


Fig. 8.1 Redox reaction between zinc and aqueous solution of copper nitrate occurring in a beaker.

Q1. How can you identify formation of Zn^{2+} ions in products when Zn rod is placed in CuNO_3 solution

- A. Blue colour appears
- B. Brown colour appears
- C. Brown colour disappears
- D. Blue colour disappears

Ans. (d)

Set – 2

Group	1	2	13	14	15	16	17
Element	Na	Mg	Al	Si	P	S	Cl
Compound	NaCl	MgSO_4	AlF_3	SiCl_4	P_4O_{10}	SF_6	HClO_4
Highest oxidation number state of the group element	+1	+2	+3	+4	+5	+6	+7

Q1. The maximum oxidation number Phosphorus can show is

- A. +5
- B. +8
- C. +6
- D. +3



Ans. (a)

Q2. Arrange the elements in decreasing order of their highest oxidation states

- A. $\text{Cl} > \text{S} > \text{P} > \text{Si}$
- B. $\text{S} > \text{P} > \text{Si} > \text{Cl}$
- C. $\text{Cl} > \text{P} > \text{S} > \text{Si}$
- D. $\text{P} > \text{Si} > \text{Cl} > \text{S}$

Ans. (A)

Q3. Which of the following elements has +4 as its highest oxidation state

- A. Al
- B. Si
- C. S
- D. Cl

Ans. (B)

Q4. Oxidation state of Cl in HClO_4 is

- A. +5
- B. +6
- C. +7
- D. +4

Ans. (C)



Set – 3

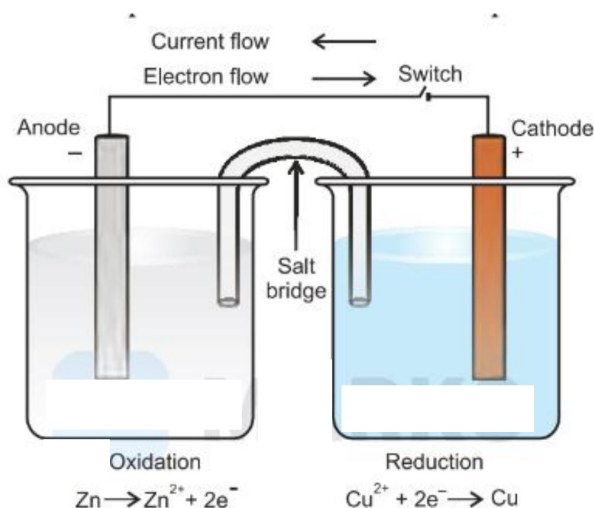


Fig.8.3 The set-up for Daniell cell. Electrons produced at the anode due to oxidation of Zn travel through the external circuit to the cathode where these reduce the copper ions. The circuit is completed inside the cell by the migration of ions through the salt bridge. It may be noted that the direction of current is opposite to the direction of electron flow.

Q1. The oxidation reaction that happens in Daniel Cell is

- A. $\text{Zn} \rightarrow \text{Zn}^{+2} + 2\text{e}^{-}$
- B. $\text{Zn} \rightarrow \text{Zn}^{+2} + 4\text{e}^{-}$
- C. $\text{Cu}^{+2} + 2\text{e}^{-} \rightarrow \text{Cu}$
- D. $\text{Cu}^{+2} + 4\text{e}^{-} \rightarrow \text{Cu}$

Ans. (A)

Q2. The reduction reaction that happens in Daniel cell is

- A. $\text{Zn} \rightarrow \text{Zn}^{+2} + 2\text{e}^{-}$
- B. $\text{Zn} \rightarrow \text{Zn}^{+2} + 4\text{e}^{-}$
- C. $\text{Cu}^{+2} + 2\text{e}^{-} \rightarrow \text{Cu}$
- D. $\text{Cu}^{+2} + 4\text{e}^{-} \rightarrow \text{Cu}$

Ans. (C)

