

## Corrosion

1. **Correct answer:** (b) Electrochemical phenomenon

- **Corrosion** is the **gradual destruction of metals** due to chemical or electrochemical reactions with their environment.
- Most common corrosion, like **rusting of iron**, occurs via **electrochemical processes** involving **anodic oxidation** and **cathodic reduction** in the presence of water and oxygen.

Therefore, corrosion is essentially an **electrochemical phenomenon**.

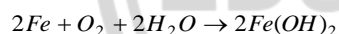
2. (d) Rusting of iron is catalysed by  $[H^+]$ .

3. (d)  $HgCl_2$  has corrosive action. It is highly poisonous. It sublimes on heating. It is, therefore, known as corrosive sublimate.

4. (a)  $Fe \rightarrow Fe^{2+} + 2e^-$  (anode reaction)

$O_2 + 2H_2O + 4e^- \rightarrow 4OH^-$  (cathode reaction)

The overall reaction is



$Fe(OH)_2$  may be dehydrated to iron oxide  $FeO$ , or further oxidised to  $Fe(OH)_3$  and then dehydrated to iron rust,  $Fe_2O_3$ .

