

Electrochemistry is a branch of chemistry which deals with the study of various kinds of chemical changes due to the passage of electric current.

Electrochemical cells

Electrolytic cell

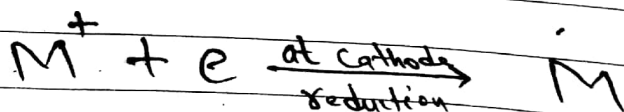
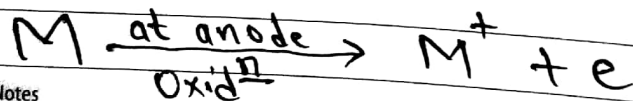
① It is an apparatus in which chemical decomposition is carried out by the passage of electricity.

② It converts electric energy into chemical energy.

③ In electrolytic cell Positive terminal is anode & negative terminal is cathode.

④ Oxidation takes place at Anode & reduction takes place at cathode.

⑤ Cell reaction :-



Galvanic cell or Voltaic cell

① It is an apparatus in which chemical redox reaction produces electricity.

② It converts chemical energy into electrical energy.

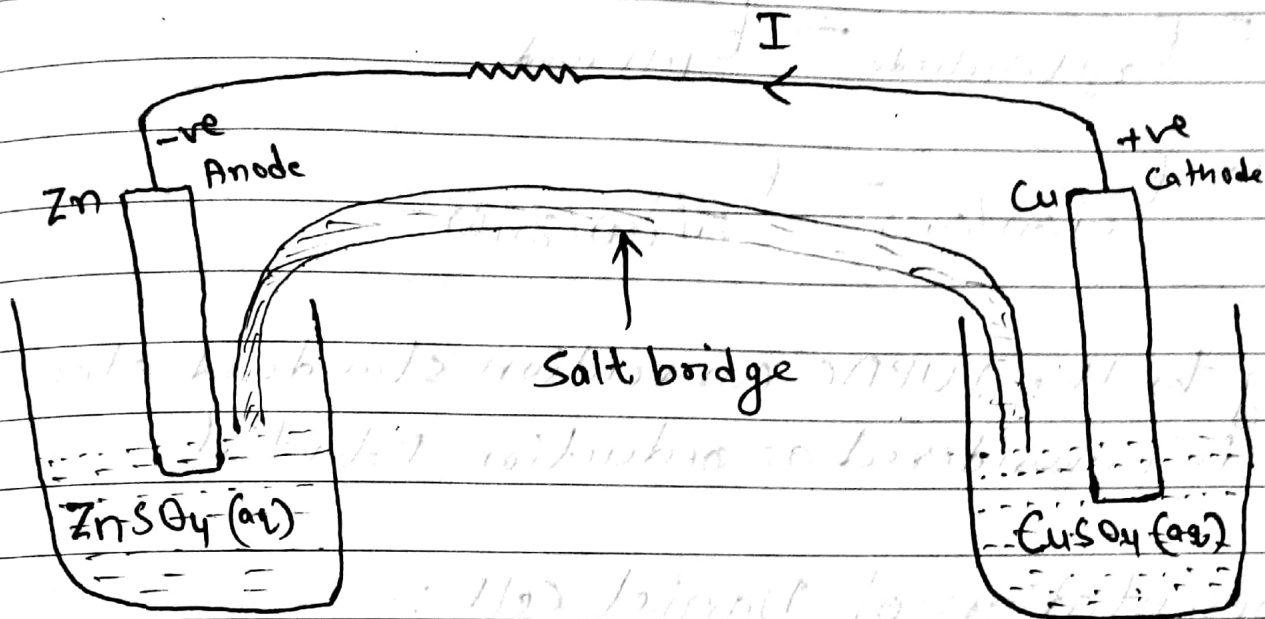
③ Negative electrode works as Anode & Positive electrode works as Cathode.

④ Oxidation takes place at Anode & reduction takes place at cathode.

⑤ Chemical reaction :-

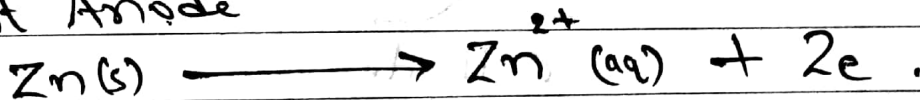
Same

Daniell cell

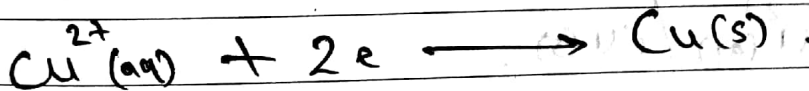


Half-cell reaction:

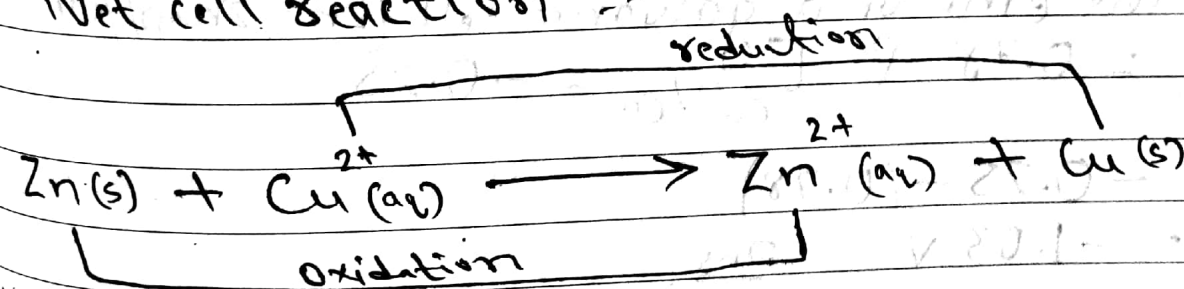
(a) At Anode



(b) At cathode



Net cell reaction:



N.B. - $E^\circ_{\text{cell}} = 1.1 \text{ V}$

Electromotive force (emf) $\rightarrow$ It is the potential difference between two electrodes of a cell at no current stage. It is measured in volt.

Electromotive force is not a force. Its dimension is totally different from the dimension of force. It is denoted by $\mathcal{E}$.