

Electrochemistry

Electrochemistry:-

It is the branch of chemistry which deals with study of relationship between electrical energy & chemical energy of Redox reaction.

Electrolysis:-

It is the process of decomposition of electrolyte by passage of electricity through its molten state or aqueous solution form. The apparatus used for electrolysis is Electrolytic cell.

Apparatus:- Electrolytic cell consist of two electrodes dipped into molten or aqueous electrolyte. The electrode connected to positive end of battery is called as Anode & connected to negative end of battery is cathode.

working:- on passing electricity, electrolyte undergo decomposition into positive & negative ions. The positive ion move towards cathode & negative ion towards Anode. The positive ion undergo reduction at cathode & negative ions undergo oxidation at Anode. If aqueous solution of electrolyte is used, there will be two types of positive ions & two types of negative ions. The ion which has low discharge potential will undergo discharge (preferential discharge theory).

Discharge potential order:-

CATIONS:- $K^+ > Na^+ > Ca^{2+} > Mg^{2+} > Al^{3+} > Zn^{2+} > Fe^{2+} > Pb^{2+} > H^+ > Cu^{2+} > Ag^+ > Au^+$

K^+ = potassium
 Na^+ = Sodium
 Ca^{2+} = calcium
 Mg^{2+} = Magnesium
 Al^{3+} = Aluminium
 Zn^{2+} = ZINC

PLEASE
 STOP
 CALLING
 ME
 A
 ZEBRA

Fe^{2+} = Iron
 Pb^{2+} = Lead
 H^+ = Hydrogen
 Cu^{2+} = Copper
 Ag^+ = Silver
 Au^+ = Gold

I
 LIKE
 HER
 CALL
 SMART
 GOAT

Same Reactivity order

ANIONS:- $PO_4^{3-} > SO_4^{2-} > NO_3^- > OH^- > Cl^- > Br^- > I^-$
 phosphate sulphate Nitrate Hydroxide chloride Bromide Iodide

SOME Non-sense ON C. B. I