1 Define the following:

a) Electric : Flow of Charges over the body

b) Current : Flow of Electric Charge is Called Current

c) Conductors: Conductors are the materials which allow to flow electric current through them.

d) Insulators: Insulators are the materials which do not flow electric current through them.

e) Electrolyte: The liquid which conducts electricity and undergoes decomposition is known as Electrolyte.

f) Ion : An ion is a atom or molecule with an electrolyte created by losing or gaining electron

g) Electrolysis : The process of decomposition of electrolyte solution into ions on passing current through it is called electrolysis

h) Electroplating : Electroplating is a process of depositing a thin layer of one metal over another metal by the method of electrolysis.

i) Anode : The Electrode connected to the positive terminal of a battery is called anode

j) Cathode : The Electrode connected to the negative terminal of a battery is called anode

2. Name the apparatus in which electrolysis is carried out.

Ans. Voltameter

3. Show the process of electrolysis

Ans: **Aim:** To show the process of electrolysis

Materials required: Voltameter, Electrode, Copper Sulphate Solution, Battery

Procedure: i) We will pass an electric current through aqueous copper sulphate ($CuSO_4$) solution, using a voltameter with two carbon electrodes connected to a battery.
ii) After some time we will observe the formation of bubbles at the positive electrode (anode)
iii) We will test the gas evolving at the anode with a glowing splinter of wood. The splinter will glow more brightly.

Observation: This proves that oxygen is given off at the anode. We will also find deposition of copper on the cathode.

Conclusion: Due to ionization, $CuSO_4$ solution is dissociated. Thus copper gets deposited on the cathode, while the anode loses an equivalent amount of copper. The concentration of $CuSO_4$ in the solution remains unchanged.

4. Give the application of electrolysis.

Ans: Electrolysis is used extensively for commercial purposes.

a) Purification of metals
b) Extraction of metals
c) Electroplating