

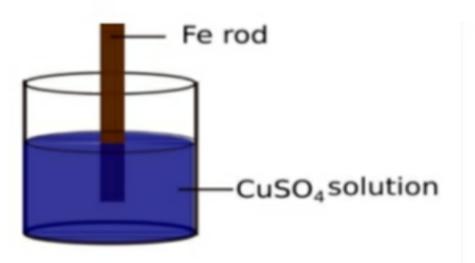


## **CLASS: 10 CHEMISTRY - 5 UNIT : REACTIVITY SERIES AND ELECTROCHEMISTRY**

## **TOPIC:**

Reactivity series and displacement reactions.

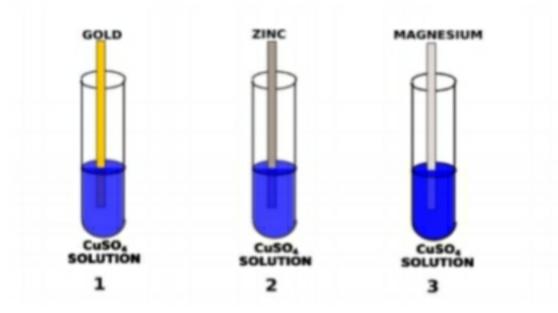
Observe the picture.



a) What are the changes that can be observed with the iron rod and the colour of the copper sulphate solution?

b) Find the metal which was oxidised and the metal ion which was reduced. Write the equations of oxidation and reduction.

- c) Name the phenomenon which take place within the beaker.
- d) What will be the change if Silver rod is used instead of iron rod. What is the reason?
- e) Arrange the following metals in the increasing order of their reactivity.
  - i) Copper ii) Iron iii) Silver
- 2. Observe the picture.



- a) In which test tube displacement reactions can be observed?

b) Write the redox equation for each reaction.

## **TOPIC:GALVANIC CELL**

- Find the energy change takes place in Galvanic cell?
  - a) Electrical energy changed to chemical energy
  - b) Chemical energy changed to electrical energy
  - c) Electrical energy changed to light energy
- Select the materials needed for making Zn-Cu Galvanic cell

(Test tubes, 2 beakers, Zn, Cu, Mg metal rods, ZnSO<sub>4</sub>, MgSO<sub>4</sub>, CuSO<sub>4</sub> salt

## solution, copper wire, salt bridge, voltmetre)

3) write down the chemical reaction take place in the anode of Cu-Ag Galvanic cell
a) Cu----> Cu<sup>2+</sup> + 2e<sup>-</sup>

- 4) The following materials are given.
  - Rods of Zn, Cu, Ag, solutions of ZnSO<sub>4</sub>
  - $cuSO_4$  ,  $AgNO_3$

(Hint: reactivity order Zn> Cu> Ag )

- a) Which metal rode is only used as anode
- Which metal rod is only used as cathode
- c) In which electrode reduction take place in the Cu-Ag galvanic cell
- d) Write down the chemical reaction takes place in the anode of Cu-Ag cell.

5)Draw a Zn-Cu galvanic cell and mention the important parts such as anode, cathode, direction of electron flow.