Roll No. :
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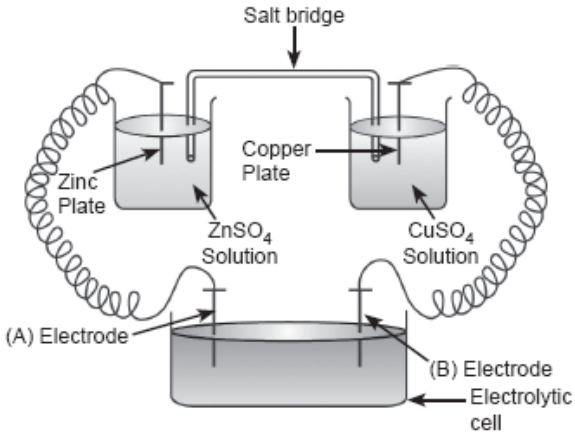
1. Represent the galvanic cell in which the reactions is 1

$$Zn(s) + Cu^{2+}(aq) \rightarrow Zn^{2+}(aq) + Cu(s)$$

2. Arrange the following metals in the order in which they displace each other from the solution of their salts. 1
   Al, Cu, Fe, Mg and Zn.

3. Consider the following diagram in which an electrochemical cell is coupled to an eletrolytic cell. What will be the polarity of electrodes 'A' and 'B' in the electrolytic cell? 1



4. The standard reduction potential for $Zn^{2+}(aq)/Zn(s)$ is – 0.76 V. Write the reactions occurring at the electrodes when coupled with NHE or SHE (standard hydrogen electrode). 1

5. E° (reduction potential) of Cu and Zn are + 0.34 V and – 0.76 V respectively. Which of them is stronger reducing agent? 1

6. Write the correct representation of cell: 1

$$2Cr(s) + 3Cd^{2+}(aq) \rightarrow 2Cr^{3+}(aq) + 3Cd(s)$$

7. What is meant by Faraday constant? 1

   Zinc rod is dipped in 0.1 M solution of ZnSO4. The salt is 95% dissociated at this dilution at 298 K. Calculate the electrode potential. Given $E^{\circ}_{Zn^{2+}/Zn}$ = – 0.76 V. 2