

## Electrochemistry Viva Questions With Answers

**Question. 1. What is oxidation?**

**Answer.** It is a process which involves loss of electrons by a substance.

**Question.2. What is reduction?**

**Answer.** It is a process which involves gain of electrons by a substance.

**Question.3. What is a voltaic cell or electrochemical cell?**

**Answer.** It is a device of converting the chemical energy into electrical energy.

**Question.4. Define the term emf?**

**Answer.** The difference of potential which causes flow of current from one electrode to another electrode in an electrochemical cell is called the electromotive force (emf).

**Question.5. What is a half-cell?**

**Answer.** It is half of the electrochemical cell where either oxidation or reduction occurs.

**Question.6. Mention the names of anode and cathode of a Daniell cell?**

**Answer.** Zinc strip acts as anode whereas copper strip as cathode.

**Question.7. Can copper be oxidised by zinc ions?**

**Answer.** No, zinc metal can be oxidised by  $\text{Cu}^{2+}$  ions.

**Question.8. What is a salt bridge?**

**Answer.** A salt-bridge is a device to keep internal continuity between the two half cells of a voltaic cell and to prevent the physical contact between the two electrolytes. It also maintains the electrical neutrality of the electrochemical cell.

**Question.9. What is the function of porous pot in a Daniell cell?**

**Answer.** The porous pot maintains the ionic continuity as well as prevents mixing of the two solutions.

**Question.10. Name the electrolytes that can be used in salt bridge.**

**Answer.** Potassium sulphate, potassium chloride or potassium nitrate containing agar-agar.

**Question.11. What is the direction of flow of electrons in an electrochemical cell?**

**Answer.** Electrons move from anode to cathode in an electrochemical cell.

**Question.12. What is the direction of flow of current in an electrochemical cell?**

**Answer.** Current flows from cathode to anode.

**Question.13. What is the effect of  $[Zn^{2+}]$  on emf of the cell  $Zn | Zn^{2+} || Cu^{2+} | Cu$ ?**

**Answer.** The emf decreases with the increase in molar concentration of  $Zn^{2+}$  ions.

**Question.14. What is the effect of  $[Cu^{2+}]$  on emf of the cell  $Zn | Zn^{2+} || Cu^{2+} | Cu$ ?**

**Answer.** The emf increases with the increase in molar concentration of  $Cu^{2+}$  ions.

**Question.15. What is the sign of  $\Delta G$  for the reaction in electrochemical cell?**

**Answer.**  $\Delta G$  is – ve for the reaction in electrochemical cell.

**Question.16. What factor is kept in mind while selecting an electrolytic solution for the construction of a salt bridge?**

**Answer.** The ions of the electrolyte in the salt should not react with ions of the electrolytes around electrodes.

**Question.17. Is it possible to measure the single electrode potential?**

**Answer.** No, because reaction in a half cell does not take place independently.