Electrochemistry Important Questions

For the chapter on Electrochemistry from the Class 12 NCERT Chemistry syllabus, here are some important questions that you can focus on for your exams:

Important Questions from Electrochemistry

1. **Short Answer Questions (2-3 Marks):**
   - Explain the concept of electrochemical cells.
   - What are the differences between electrolytic and galvanic cells?
   - State and explain Faraday's laws of electrolysis.
   - Define the term ‘conductance’ and give its units.
   - What is Kohlrausch’s law? Write its applications.
   - Write the Nernst equation for the calculation of electrode potential and explain the terms involved.
2. **Numerical Problems (2-5 Marks):**
   - Calculate the standard cell potential for a galvanic cell with the given half-cell reactions.
   - Given data for molar conductivities, calculate the degree of dissociation and dissociation constant.
   - Calculate the emf of a cell using the Nernst equation.
   - Problems based on Faraday's laws of electrolysis, including the calculation of the amount of substance deposited at an electrode.
3. **Long Answer Questions (5 Marks):**
   - Discuss the working of a lead-acid battery with the help of cell reactions.
   - Derive the relation between Gibbs free energy and cell potential.
   - Explain the concept of corrosion. What are the methods to prevent corrosion?
4. **Application-Based Questions:**
   - Why is electrolysis of molten sodium chloride carried out using an inert electrode? Explain with reactions.
   - Explain the importance of salt bridges in electrochemical cells.
   - Discuss the limitations of Arrhenius theory in explaining weak electrolyte conductivity.

These questions cover conceptual understanding, numerical calculations, and real-life applications, which are vital for the topic of electrochemistry. You can also enhance your preparation by reviewing any video lectures related to this topic.
Additionally, if you would like to practice quizzes, here's a link for related electrochemistry topics: Electrochemistry Quiz Link.