

Electrochemical Cells Quiz PDF

Electrochemical Cells Quiz PDF

Disclaimer: *The electrochemical cells quiz pdf was generated with the help of StudyBlaze AI. Please be aware that AI can make mistakes. Please consult your teacher if you're unsure about your solution or think there might have been a mistake. Or reach out directly to the StudyBlaze team at max@studyblaze.io.*

What factors can affect the performance of an electrochemical cell? (Select all that apply)

- Temperature
- Concentration of electrolytes
- Pressure
- Color of electrodes

Which of the following are components of a galvanic cell? (Select all that apply)

- Anode
- Cathode
- External power source
- Salt bridge

Which of the following is a characteristic of an electrolytic cell?

- It generates electrical energy spontaneously.
- It requires an external power source.
- It uses a salt bridge.
- It has a positive anode.

What is the primary function of a galvanic cell?

- To convert electrical energy into chemical energy
- To convert chemical energy into electrical energy
- To store electrical energy
- To measure electrical resistance

Which of the following are applications of electrochemical cells? (Select all that apply)

- Battery
- Electroplating

- Corrosion prevention
- Photosynthesis

Describe the process of writing a cell notation for a simple galvanic cell.

Explain how corrosion is related to electrochemical cells and how it can be prevented.

In an electrochemical cell, where does oxidation occur?

- Cathode
- Anode
- Salt bridge
- Electrolyte

Describe the function of a salt bridge in an electrochemical cell.

Which of the following best describes a primary battery?

- Rechargeable
- Non-rechargeable
- Used in solar panels
- Used in fuel cells

Which component of an electrochemical cell maintains electrical neutrality?

- Anode
- Cathode
- Salt bridge
- Electrolyte

What is the standard electrode potential of the standard hydrogen electrode (SHE)?

- 1.0 V
- 0.5 V
- 0 V
- 1.0 V

What is the role of the electrolyte in an electrochemical cell?

- To conduct electrons
- To conduct ions
- To prevent oxidation
- To provide a surface for reaction

Discuss the environmental impact of battery disposal and recycling.

What does the Nernst equation calculate?

- Standard electrode potential
- Cell potential under non-standard conditions
- Gibbs free energy

- Rate of reaction

Explain the difference between a galvanic cell and an electrolytic cell.

Which of the following are true for a cathode in a galvanic cell? (Select all that apply)

- It is the site of reduction.
 It is the site of oxidation.
 It is positively charged.
 It is negatively charged.

What are the characteristics of a secondary battery? (Select all that apply)

- Rechargeable
 Non-rechargeable
 Used in portable electronics
 Used in single-use applications

Which reactions occur in an electrochemical cell? (Select all that apply)

- Oxidation
 Reduction
 Neutralization
 Precipitation

How does the Nernst equation relate to cell potential and concentration?

