

Oral Exam of the Electrochemistry course (419 Chem.) for B.Sc. Students, General

Name:

Class:

Choose the most appropriate answer (1.5 points each)

- Cyclic voltammetry offers the advantages of
 - calculating formal redox potentials
 - investigating electron transfer kinetics
 - studying the electrode mechanism
 - (a, b, and c)
- According to Butler Volmer equation, the current density depends on the
 - applied overvoltage
 - redox species concentration
 - electrode surface area & temperature
 - (a, b, and c)
- An electrochemical cell has a $\Delta E < 0$, does the overall reaction
 - proceed spontaneously?
 - proceed when sufficient voltage applied?
 - do not proceed?
 - none of them
- The current recorded in a cell containing a solution of ascorbic acid in a buffer refers to
 - Faradaic
 - capacitive
 - Faradaic & capacitive
 - None of them
- What does it mean that an electrode is at equilibrium?
 - the exchange current density is zero
 - it shows a potential of 0.0 V
 - anodic current equals the cathodic current
 - anodic current density equals the cathodic current density

With my best wishes
Dr. Reda Elshafey