Assignment 1

1) The unit of current is
   - coulombs/second
   - volt
   - coulombs
   - F

   **Accepted Answers:**
   coulombs/second

2) Electrochemistry is a
   - surface science
   - science of bulk matter
   - bio-organic science
   - bio-inorganic science

   **Accepted Answers:**
   surface science

3) Read the following statements:
   A. When the current results from chemical substance dissolved in the solution adjacent to an electrode,
   B. it is not surprising that the probability of a molecule or ion reacting at the surface is directly related to concentration.

   Choose the correct option
   - Both the statement A and B are true
   - Both statement A and B have errors
   - A is correct, B has errors
   - A has an error, B is correct

   **Accepted Answers:**
   Both the statement A and B are true

4) Potential is a measure of
5) Read the following statements
A. Redox reactions respond to electron pressure.
B. Just as acid and base reactions respond to proton pressure.
Choose the correct option

- Both the statement A and B are true
- Both statement A and B have errors
- A is correct, B has errors
- A has an error, B is correct

6) When the experimental results are presented as current versus time, it is termed as:

- chrono-voltammetry
- coulomb measurement
- chrono-amperometry
- voltammetry

7) Read the following statements
A. We only have E (potential in volt), i (current), and t (time) to play with.
B. We change either E or i as independent variables.
C. We cannot control both E and i at the same time.
D. t takes care of itself

- A, B, C and D are correct
- A has an error
- B and C have errors
- D is only correct; A, B and C has errors

8) Read the following statements
A. In electrochemistry the potential is very influential on the rate of the reaction.
B. In principle, all electrode reactions occur to some degree at all potentials.
C. But in some cases the rate is too slow.
D. The electron transfer rate increases exponentially with applied potential.

- A, B, C and D are correct
- A has an error
- B and C have errors
- D is only correct; A, B and C has errors
9. The amount of electricity is called
   - current
   - charge
   - capacitance
   - rate of current flow

   **Accepted Answers:**
   A, B, C and D are correct

10. The current density is directly related to concentration unless the electrode reaction has unusual features like:
   A. Adsorption
   B. Dimerization
   C. Only adsorption and no dimerization
   D. Both adsorption and dimerization

   Which of the choice is fully correct
   - A is correct
   - B is correct
   - Only B is correct and A is not possible
   - D is completely correct

   **Accepted Answers:**
   D is completely correct