Engineering Materials (MSE-220)
Assignment # 5

1- **What 3 things are needed for electrochemical corrosion to occur?**

Ans: Electrolyte, Anode, Cathode.

2- **What is the corroded member in a corrosion cell?**
Ans: Anode

3- **What do absorptive corrosion inhibitors do?**

Ans: They slow down the anode or cathode reaction in an electrochemical corrosion cell.

4- **What are two types of Cathodic Protection?**

Ans: Sacrificial Anode and Impressed Current

5- **Is electroplating a very good form of corrosion protection against electrochemical corrosion?**
Ans: No, there are pinhole and crack imperfections.

6- **What is pitting?**
Ans: Local corrosion damage characterized by surface cavities.

7- **What are three types of polarization?**
Ans: Activation Polarization, Concentration Polarization, IR Drop

8- **How does concentration polarization occur?**
Ans: Concentration polarization occurs if there is not enough reactant as an active electrode (not enough ions available).

9- **Name five types of corrosion.**
Ans:
Uniform, Pitting, Crevice, Galvanic, Stress corrosion cracking, Inter-granular attack, and Dealloying

10- **What are 3 main factors in corrosion control?**
Ans: Material selection, Environment control, and Design

Note:

Read the given text and presentation slides for Chapter 6 (Corrosion) very carefully and be ready for more difficult questions.