

Maulana Azad National Institute of Technology (MANIT)- Bhopal

Assignment Problems: Corrosion

Course Name: Engineering Chemistry

Subject Code: CHY 24107

Section G

B.Tech (First Year)- Semester-I 2024-25

Name of Faculty: Dr. Amit Dubey

Q1. What kind of corrosion takes place when bolt and nut made from different metals are brought to contact with each other? Explain with chemical reactions.

Q2. What is the role of the nature of oxide formed in the oxidation process? Write the probable processes with proper explanation of the each one of them.

Q3. Can we use aluminium in place of zinc for cathodic protection of iron objects from rusting? Justify on either of the case.

Q4. What is the fundamental difference between the sacrificial anodic protection and impressed current method of cathodic protection ? Write all the chemical equations involved for suitable explanation.

Q5. What happens when small particles of dust deposited on the surface of the iron? Identify the type of corrosion.

Q6 Explain the mechanism of electrochemical corrosion by hydrogen evolution and oxygen absorption. Write all the equations clearly.

Q7. How many rust ($\text{Fe}_2\text{O}_3 \cdot 3\text{H}_2\text{O}$) will be formed when 200kg of iron have completely rusted away? Comment on the validity of the experimental data.