

ENGINEERING CHEMISTRY

WORKSHEET

UNIT 2: ELECTRO CHEMISTRY AND CORROSION

1. The electrode potential is a tendency of a metal
 - (a) to gain electrons
 - (b) to lose electrons
 - (c) either to lose or gain electrons
 - (d) none of the above
2. During the electrochemical corrosion in acidic environment
 - (a) O_2 evolution occurs
 - (b) O_2 absorption occurs
 - (c) H_2 evolution occurs
 - (d) H_2 absorption occurs
3. The change in rate of corrosion with temperature is
 - (a) increases
 - (b) decreases
 - (c) no change
 - (d) None of the above
4. A galvanic cell converts
 - (a) Chemical to electrical energy
 - (b) Electrical to chemical Energy
 - (c) Electrical to heat energy
 - (d) None of the above
5. Calomel is a
 - (a) mercuric sulphate
 - (b) mercurous sulphate
 - (c) mercurous chloride
 - (d) mercuric chloride
6. The electrode present in SHE is
 - (a) platinum electrode
 - (b) calomel electrode
 - (c) pH electrode
 - (d) None of the above
7. Corrosion is a process of
 - (a) Reduction
 - (b) electrolysis
 - (c) oxidation
 - (d) neutralization

- ### Fill in the Blanks

11. The Primary reference electrode is_____
12. The rate of corrosion increases with _____in pH
13. Chemical corrosion is also called as_____
14. Galvanic cell is also known as_____
15. The ratio of volume of metal oxide formed to volume of metal is called _____
16. The Nernst equation for electrode reaction is_____
17. The process of decaying of metal by the action of environment is _____
18. The relation between the electrode potential E and the concentration of an ion is given as _____
19. Wet corrosion is also known as

20. Potential of standard hydrogen electrode(SHE) is _____

True / False

21. During the electrochemical corrosion in Neutral environment O₂ Absorption Occurs

True/False

22. Rate of Corrosion depend on Nature of metal

True/False

23. The Secondary Reference Electrode is also known as Calomel Electrode

True/False

24. The Oxide layer formed on the metal surface is of 4 types

True/False

25. In a Metal- Metal Couple the metal with more negative E⁰ Value undergoes Corrosion

True/False

Match the Following

26. Reduction

a) Zn/Mg

27. Overvoltage

b) KCl

28. More Active Metal used in Sacrificial anodic Protection is

c) Cathode

29. The Electrolyte in Salt Bridge

d) Inversely Proportional to Rate of Corrosion

30. Different concentrations of O₂ at Anode and Cathode

e) Waterline Corrosion