

## UNIT 1 – ELECTRO CHEMISTRY

### PART A

1. Define electrode potential
2. Define standard electrode
3. What is helmhoitz double layer?
4. Infer the characteristics of battery.
5. What is salt bridge and mention its functions?
6. Write down the expression for glass electrode and pH
7. Classify metallic and electrolytic conductors
8. Compare reversible and irreversible battery.
9. Define EMF and its equation
10. Relate the electrical double layer and its potential

### PART B

1. Identify the version of dry cell and assemble the electrodes with half-cell reactions
2. Discuss the solar water heater in greener way of solar thermal conversion.
3. Examine various reference electrodes and provide a suitable one in determining the electrode potential of Zn and list its applications.
4. Describe the principle and working of gold plating over copper with neat diagram.
5. Choose the ion selective electrode to determine the pH of the solution
6. In which ways can solar galvanic cells be implemented for rural electrification to enhance economic, environmental, and social outcomes in underserved communities?
7. Estimate the potentiometric redox titrations for  $K_2Cr_2O_7$  Vs.  $FeSO_4$  with neat sketch. Choose Modern battery with sketching out the assembly and functioning in detail.
8. Derive Nernst equation for electrode potential and mention its applications.