

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.

B.Sc.Chemistry - END SEMESTER EXAMINATIONS - APRIL 2025

SEMESTER - VI

22UCHCT6015 - Electrochemistry

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Explain the determination of standard electrode potential of zinc electrode.
2. Describe the electrochemical series and its applications.
3. Derive Nernst equation.
4. Discuss the determination of pH of a solution using glass electrode.
5. Explain the Kohlrausch's law and its applications.
6. Give the advantages of conductometric titrations. Explain the weak acid vs weak base by conductometric titration.
7. Discuss the Arrhenius theory of electrolytic dissociation.
8. Explain the H₂-O₂ fuel cell.

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. Explain the measurement of electro motive force(EMF) using potentiometer.
10. Derive an expression of EMF of a concentration cell with transference.
11. Explain the determination of transference numbers by Hittorf's method.
12. Derive the Debye-Huckel Onsager equation for strong electrolytes.
13. Discuss the various methods used in the prevention of corrosion.
