

Roll.No.

22UCHCT6015

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 - NOVEMBER 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. Discuss the determination of standard electrode potentials of zinc electrode.
2. Explain the primary and secondary reference electrodes.
3. Derive of 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. Describe the Arrhenius theory of electrolytic dissociation.
8. Explain the  $H_2 - O_2$  fuel cell.

### Section C

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

9. Explain the electrochemical series and its applications.
10. Derive an expression of EMF of a concentration cell with transport.
11. Discuss the determination of transport number of ions by Hittorf's method.
12. Derive the Debye-Huckel Onsager equation for strong electrolytes.
13. Explain the electro chemical theory of corrosion.

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