

CY-611 Electrochemistry and Applications

Electrochemical Techniques: Controlled potential micro electrode techniques including potential step and potential sweep process, reversible, irreversible, and quasi-reversible systems. Controlled current micro electrode techniques at planar and spherical electrodes, Concentration profiles, Polarography and Voltammetry. Forced Convection-Hydrodynamics Methods: Impedance based circuits, equivalent circuits, kinetic parameters, A.C. voltammetry, A.C. polarography. Bulk Electrolysis Methods: Classification, Controlled potential methods, electro gravimetric and electro-separation methods. Experimental aspects: Potentiometry, polarography, voltammetry, amperometry, chronopotentiometry, coulometry, and electrophoresis, computer software used in electrochemistry.