CY-402 PHYSICAL CHEMISTRY

Chemical Equilibrium: Spontaneous chemical reactions and equilibrium, effects of external stress on equilibria (Le Chatelier's Principle), the reaction quotient, relationship between Kc and Kp, heterogeneous equilibria, nature of solubility equilibria, distribution law and its validity, application of the distribution law to the selected systems like solvent extraction.

Chemical Kinetics: Experimental techniques for the determination of reaction rate, flash photolysis, and

electrochemical analysis, factors affecting the rate of chemical reaction, order and molecularity, kinetics' of zero, first, second and third order reactions (with same initial and different initial concentration), pseudo order reactions, relation between rate equations for the forward and backward reactions, reversible first order reactions, half-life for various order reactions, methods for the determination of order of reactions, collision theory, transition state theory, Arrhenius theory, activation parameters, Hinshelwood theory of unimolecular reaction, bimolecular collision theory, trimolecular reactions, branched and unbranched chain reactions.