

SYLLABUS :-

Rate laws and stoichiometry. Isothermal reactor design- Batch, plug flow and mixed flow. Heterogeneous reactions and effects of mass and heat transfer. Chemical reactor analysis: Non-ideal reactors, non-isothermal reactors and design. Catalyst preparation and characterization. Deactivation of catalyst. Multiphase reactions: Gas-liquid, liquid-liquid, gas-solid, solid-liquid-gas. Text Book: 1. Chemical Reaction Engineering by Octave Levenspiel 2. Chemical Engineering Kinetics by J. M. Smith Reference Book : 1. Elements of Chemical Reaction Engineering by H. S. Fogler