

Year & Sem: E2S2	Course Code:CH2201	Course Name: Chemical Reaction Engineering II	No. of Credits: 4	L 2	T&PS 2	P 0
Unit-I: The tanks in series model- pulse response experiments and the RTD, chemical conversion. Earliness of mixing, segregation and RTD- self-mixing of a single fluid, mixing of two miscible fluids. Unit-II: catalysis and Catalytic reactors- catalysts, steps in a catalytic reactions, synthesizing a rate law, mechanism and rate limiting step. Unit-III: Heterogeneous reactions -Introduction to Solid catalyzed reactions- The rate equation for Surface Kinetics- Pore diffusion resistance combined with surface kinetics. Unit-IV: Porous catalyst particles, Heat effects during reaction, Performance equations for reactors containing porous catalyst particles. Unit-V: Solid catalyzed reactions- Experimental methods for finding rates. Unit-VI: Modeling and Design of Bio reactors and Fluidized Bed Reactors. References/Text Books: 1. "Chemical Reaction Engineering", Wiley Eastern, 3rd ed., Tata McGraw Hill. 2. "Elements of Chemical Reaction Engineering" by H S Fogler, 4th Edition, PHI Lecture Plan: Unit-I & -II syllabus for MID-I, Unit-III & -IV syllabus for MID-II and Unit-V & -VI syllabus for MID-III examinations. Video Lectures (Web Links): 1. 2. Study Materials (Web Links): 1. 2. Problems & Solutions (Web Links): 1. 2. Assignments (Web Links): 1. 2.						