

22PCM312P					Reaction Engineering Laboratory					
Teaching Scheme					Examination Scheme					
L	T	P	C	Hr/Week	Theory			Practical		Total Marks
					MS	ES	IA	LW	LE/Viva	
0	0	2	1	2	-	-	-	50	50	100

**COURSE OBJECTIVES**

Students develop sound working knowledge and design different types of reactors.

**Week 1:** Kinetic studies in a Batch reactor

**Week 2:** Kinetic studies in a Plug flow reactor

**Week 3:** Kinetic studies in a CSTR

**Week 4:** Kinetic studies in a Packed bed reactor

**Week 5:** Kinetic studies in a PFR followed by a CSTR

**Week 6:** RTD studies in a PFR

**Week 7:** RTD studies in a packed bed reactor

**Week 8:** RTD studies in a CSTR

**Week 9:** Studies on micellar catalysis

**Week 10:** Study of temperature dependence of rate constant using CSTR.

**Week 11:** Kinetic studies in Sono chemical reactor

**Week 12:** Batch reactive distillation Drying characteristics of Vacuum/Tray/Rotary dryer.

**Week 13:** Kinetics of photochemical reaction

**Week 14:** Demonstration of heterogeneous catalytic reaction

**Week 15:** Demonstration of gas-liquid reaction

**COURSE OUTCOMES**

On completion of the course, student will be able to

**CO1:** Understand the kinetics of Batch, PFR and CSTR.

**CO2:** Understand the working principle of Packed and CSTR.

**CO3:** Gain sound knowledge on sono chemical reactor.

**CO4:** Demonstrate the drying operations and photo chemical reaction.

**CO5:** Describe catalysis and catalytic reactions.

**CO6:** Demonstrate gas liquid reactions.

**END-SEMESTER EXAMINATION QUESTION PAPER PATTERN**

**Max. Marks: 100**

**Exam Duration: 3 Hr**

PART A: Evaluation based on the class performance and Laboratory book 50 Marks

PART B: Viva Examination based conducted experiments 50 Marks