

SARDAR PATEL UNIVERSITY
Programme & Subject: M.Sc (Surface Coating Technology)
Semester: III
Syllabus with Effect from: June - 2010

Paper Code: PS03ESCT01	Total Credit: 4
Title Of Paper: Chemical Reaction Engineering	

Unit	Description in Detail	Weightage (%)
I	Classification of Chemical Reactors; Design equations for isothermal and adiabatic operation; Multiple reactor system, Recycle reactors, constant volume and constant pressure reactors; Kinetics of reversible, complex (Parallel and Series) and Autocatalytic reactions; Kinetics of heterogeneous reactions – Global rate of reaction; Adsorption Langmuir and BET; Catalyst Promoters, Poisons and Inhibitors, Surface Reactions Unimolecular and Bimolecular; Introduction to Catalytic Reactors	100 %

Basic Text & Reference Books:-

- Chemical Reaction Engg. by Octave Levenspiel , 3rd Ed. John Wiley & Sons.
- Chemical Engg. Kinetics, by JM Smith, 3rd Ed. McGraw Hill Book Co.
- Fundamentals of Chemical Reactions Engg., 2nd Ed. by Holland and Anthony, Prentice- Hall International Edition.
- Chemical Reactor Theory, by Denbigh and Turner, University of Cambridge.
- Reaction Engg. through solved problem, by Srivastva and Pande, Metropolitan Book Co(P) Ltd, New Delhi
- Chemical Kinetics, by S.K. Jain, Vishal Publication , Jalandhar

