

## NPTTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

NPTTEL Video Course - Chemical Engineering - Chemical Reaction Engineering 1 (Homogeneous Reactors)

Subject Co-ordinator - Prof K. Krishnaiah

Co-ordinating Institute - IIT - Madras

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

Lecture 1 - Motivation and Introduction - Part I  
Lecture 2 - Motivation and Introduction - Part II  
Lecture 3 - What is Chemical Engineering - Part I  
Lecture 4 - What is Chemical Engineering - Part II  
Lecture 5 - What is Chemical Reaction Engineering - Part I  
Lecture 6 - What is Chemical Reaction Engineering - Part II  
Lecture 7 - Homogeneous and Heterogeneous Reactions - Part I  
Lecture 8 - Homogeneous and Heterogeneous Reactions - Part II  
Lecture 9 - Basics of Kinetics and Contacting  
Lecture 10 - Design of Batch reactors - Part I  
Lecture 11 - Design of Batch reactors - Part II  
Lecture 12 - Basics of Plug Flow Reactor - Part I  
Lecture 13 - Basics of Plug Flow Reactor - Part II  
Lecture 14 - Design of Plug Flow Reactors - Part I  
Lecture 15 - Design of Plug Flow Reactors - Part II  
Lecture 16 - Basics of Mixed Flow Reactors  
Lecture 17 - Design of Mixed Flow Reactors  
Lecture 18 - Basics of Kinetics  
Lecture 19 - Kinetics of Heterogeneous reactions - Part I  
Lecture 20 - Kinetics of Heterogeneous reactions - Part II  
Lecture 21 - Kinetics of Heterogeneous reactions - Part III  
Lecture 22 - Kinetics of Homogeneous reactions  
Lecture 23 - Reaction rate for Homogeneous reactions  
Lecture 24 - Gas Phase Homogeneous reactions  
Lecture 25 - (Continued...) And later Reactor Design of PFR  
Lecture 26 - Reactor Design for MFR and Combination of reactors  
Lecture 27 - PFR and MFR in series.  
Lecture 28 - Unsteady state MFR and PFR  
Lecture 29 - Recycle Reactors

---

Get Digi-MAT (Digital Media Access Terminal) For High-Speed Video Streaming of NPTTEL and Educational Video Courses in LAN

[www.digimat.in](http://www.digimat.in)

## NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

---

- Lecture 30 - Recycle Reactors (Autocatalytic reactions) - Part I
- Lecture 31 - Recycle Reactors (Autocatalytic reactions) - Part II
- Lecture 32 - Multiple Reactions - Part I
- Lecture 33 - Multiple Reactions - Part II
- Lecture 34 - Multiple Reactions - Part III
- Lecture 35 - Multiple Reactions - Part IV
- Lecture 36 - Multiple Reactions - Part V
- Lecture 37 - Multiple Reactions - Part VI
- Lecture 38 - Non-Isothermal Reactors - Part I
- Lecture 39 - Non-Isothermal Reactors - Part II
- Lecture 40 - Non-Isothermal Reactors (Graphical Design)
- Lecture 41 - Non-Isothermal Reactors contd. & Adiabatic Reactors
- Lecture 42 - Non-Isothermal Reactors (Graphical Design) (Continued...)
- Lecture 43 - Non-Isothermal Batch Reactors
- Lecture 44 - Non-isothermal Plug Flow Reactors - Part I
- Lecture 45 - Non-isothermal Plug Flow Reactors - Part II
- Lecture 46 - Adiabatic Plug Flow Reactors
- Lecture 47 - Non-isothermal Mixed Flow Reactors
- Lecture 48 - Non-isothermal Mixed Flow Reactors (Continued...) (Multiple steady states) - Part I
- Lecture 49 - Non-isothermal Mixed Flow Reactors (Continued...) (Multiple steady states) - Part II
- Lecture 50 - Non-Ideal Flow and Residence Time Distributions (RTD) basics - Part I
- Lecture 51 - Non-Ideal Flow and Residence Time Distributions (RTD) basics - Part II
- Lecture 52 - RTD for various reactors (Continued...) Part I
- Lecture 53 - RTD for various reactors (Continued...) Part II
- Lecture 54 - Diagnosing the ills of equipments and Various RTD Models
- Lecture 55 - Dispersion Model
- Lecture 56 - Dispersion with reaction Model and Tanks in Series Model
- Lecture 57 - Multi-parameter model (MFR with dead space and bypass)
- Lecture 58 - Direct use of RTD to predict conversion (Macro and Micro-fluid as well as Macro & Micro-mixing C
- Lecture 59 - Direct use of RTD to predict conversion (Macro and Micro-fluid as well as Macro & Micro-mixing C
- Lecture 60 - Direct use of RTD to predict conversion (Macro and Micro-fluid as well as Macro & Micro-mixing C