

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

NPTEL Video Course - Chemical Engineering - NOC:Solid-Fluid Operations

Subject Co-ordinator - Prof. Subrata Kumar Majumder

Co-ordinating Institute - IIT - Guwahati

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

- Lecture 1 - Introduction to Solid-Fluid Operations
- Lecture 2 - Characteristics of Single particle
- Lecture 3 - Particle size and Its distribution in mixture
- Lecture 4 - Mechanism of Size Reduction
- Lecture 5 - General Machines for Size Reduction
- Lecture 6 - Laws of Energy for Size Reduction
- Lecture 7 - Introduction on Size Enlargement
- Lecture 8 - Mechanism of Size Enlargement
- Lecture 9 - Equipment for Size Enlargement
- Lecture 10 - Flow Past a Cylinder and Spherical Particle
- Lecture 11 - Terminal velocity of single particle
- Lecture 12 - Multiple particle Interaction/Sedimentation: Hindered settling velocity
- Lecture 13 - Basic law and terminology of flow through granular bed
- Lecture 14 - General expressions for flow through packed beds-Ergun Equation
- Lecture 15 - Two-phase flow through packed bed
- Lecture 16 - Mixing of Solids: Introduction
- Lecture 17 - Degree of mixing and Its Assessment
- Lecture 18 - Mixing and agitation of fluids/slurries
- Lecture 19 - Basic understandings and applications of fluidization
- Lecture 20 - Minimum Fluidization Velocity
- Lecture 21 - Basic understanding of froth flotation
- Lecture 22 - Separation of particles by Screening
- Lecture 23 - Particulate Matter Separation by Gravity Settling Chamber
- Lecture 24 - Particle Separation by Cyclone and Centrifuge
- Lecture 25 - Particle Separation by Electrostatic Precipitator
- Lecture 26 - Separation by Industrial Fabric (Bag) Filters
- Lecture 27 - Wet Scrubber for Particle Removal
- Lecture 28 - Filtration
- Lecture 29 - Dead-End and Continuous Filtration

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- Lecture 30 - Reverse Osmosis
- Lecture 31 - Introduction to Nanoparticles
- Lecture 32 - Synthesis of Nanoparticles - Physical Method
- Lecture 33 - Synthesis of Nanoparticles (Chemical Methods)
- Lecture 34 - Adsorption: Principle and Applications
- Lecture 35 - Analysis of Adsorption by Isotherms
- Lecture 36 - Adsorption Kinetics