

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

NPTEL Video Course - Electrical Engineering - NOC:Electrical Distribution System Analysis

Subject Co-ordinator - Prof. N P Padhy, Late Prof. G. B. Kumbhar

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction to Electrical Distribution System  
Lecture 2 - Components of Distribution System Substation and Busbar Layouts  
Lecture 3 - Components of Distribution System and Feeder Configurations  
Lecture 4 - Nature of Loads in a Distribution System  
Lecture 5 - Load Allocation in a Distribution System  
Lecture 6 - K Factors and Their Applications  
Lecture 7 - Analysis of Uniformly Distributed Loads  
Lecture 8 - Lumping Loads in Geometric Configurations: Rectangular  
Lecture 9 - Lumping Loads in Geometric Configurations: Triangular  
Lecture 10 - Impedance of Distribution Lines and Feeders - Part I  
Lecture 11 - Series Impedance of Distribution Lines and Feeders - Part II  
Lecture 12 - Models of Distribution Lines and Cables  
Lecture 13 - Modelling of Single-Phase and Three-Phase Transformers  
Lecture 14 - Modelling of Three-Phase Transformers - Part I  
Lecture 15 - Modelling of Three-Phase Transformers - Part II  
Lecture 16 - Modelling of Three-Phase Transformers - Part III  
Lecture 17 - Modelling of Three-Phase Transformers - Part IV  
Lecture 18 - Modelling of Step Voltage Regulators - Part I  
Lecture 19 - Modelling of Step Voltage Regulators - Part II  
Lecture 20 - Modelling of Step Voltage Regulators - Part III  
Lecture 21 - Modelling of Step Voltage Regulators - Part IV  
Lecture 22 - Load Models in Distribution System - Part I  
Lecture 23 - Load Models in Distribution System - Part II  
Lecture 24 - Modelling of Distributed Generation  
Lecture 25 - Applications and Modeling of Capacitor Banks  
Lecture 26 - Summary of Modelling of Distribution System Components  
Lecture 27 - Backward/Forward Sweep Load Flow Analysis - Part I  
Lecture 28 - Backward/Forward Sweep Load Flow Analysis - Part II  
Lecture 29 - Direct Approach Based Load Flow Analysis - Part I

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- Lecture 30 - Direct Approach Based Load Flow Analysis - Part II
- Lecture 31 - Direct Approach Based Load Flow Analysis - Part III
- Lecture 32 - Direct Approach Based Load Flow Analysis: Weakly Meshed System
- Lecture 33 - Gauss Implicit Z-matrix Method
- Lecture 34 - Sequence Component Based Short Circuit Analysis
- Lecture 35 - Thevenin's Equivalent and Phase Variable Based Short Circuit Analysis
- Lecture 36 - Direct Approach for Short-Circuit Analysis: Introduction and LG Fault
- Lecture 37 - Direct Approach for Short-Circuit Analysis: LLG and LLLG Fault
- Lecture 38 - Direct Approach for Short-Circuit Analysis: LL Fault and Examples
- Lecture 39 - Direct Approach for Short-Circuit Analysis: Weakly Meshed System
- Lecture 40 - Applications of Distribution System Analysis
- Lecture 41 - Distributed Generation Integration Issues in Distribution System
- Lecture 42 - Distribution System Protection Issues
- Lecture 43 - Power Quality, Reliability and Availability
- Lecture 44 - Design and Operation - Part I
- Lecture 45 - Design and Operation - Part II
- Lecture 46 - Definition and objective of Volt-var control (VVC)
- Lecture 47 - Traditional approaches of VVC
- Lecture 48 - Distribution Automation
- Lecture 49 - SCADA-Based VVC and Integrated VVC
- Lecture 50 - Advanced technologies for VVC - Part I
- Lecture 51 - Advanced technologies for VVC - Part II
- Lecture 52 - System Planning - Part I
- Lecture 53 - System Planning - Part II
- Lecture 54 - Electricity Forecasting
- Lecture 55 - Case study: IIT Roorkee distribution system
- Lecture 56 - Optimization techniques
- Lecture 57 - Optimal location and sizing battery energy storage system (BESS)
- Lecture 58 - Practical Insights into Electrical Distribution Systems
- Lecture 59 - Field Deployment of BESS
- Lecture 60 - Emerging Technologies and Future Trends