

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

NPTEL Video Course - Electrical Engineering - NOC:Basic Electric Circuits

Subject Co-ordinator - Prof. Ankush Sharma

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Basic Concepts
Lecture 2 - Sinusoids and Phasors
Lecture 3 - Circuit Elements - Part 1
Lecture 4 - Circuit Elements - Part 2
Lecture 5 - AC Power Analysis
Lecture 6 - RMS Voltage and Current
Lecture 7 - Topology
Lecture 8 - Star-Delta Transformation and Mesh Analysis
Lecture 9 - Mesh Analysis.
Lecture 10 - Nodal Analysis
Lecture 11 - Linearity Property and Superposition Theorem
Lecture 12 - Source Transformation
Lecture 13 - Duality
Lecture 14 - Thevenin's Theorem - 1
Lecture 15 - Thevenin's Theorem - 2
Lecture 16 - Norton's Theorem - 1
Lecture 17 - Norton's Theorem - 2
Lecture 18 - Maximum Power Transfer Theorem - 1
Lecture 19 - Maximum Power Transfer Theorem - 2
Lecture 20 - Reciprocity and Compensation Theorem
Lecture 21 - First Order RC Circuits
Lecture 22 - First Order RL Circuits
Lecture 23 - Singularity Functions
Lecture 24 - Step Response of RC and RL Circuits
Lecture 25 - Second Order Response
Lecture 26 - Step Response of Second Order Circuits-First Order and Second Order Circuits (Continued...)
Lecture 27 - Step Response of Parallel RLC Circuit-First Order and Second Order Circuits (Continued...)
Lecture 28 - Definition of the Laplace Transform
Lecture 29 - Properties of the Laplace Transform

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- Lecture 30 - Inverse Laplace Transform
- Lecture 31 - Laplace Transform of Circuit Elements
- Lecture 32 - Transfer Function
- Lecture 33 - Convolution Integral
- Lecture 34 - Graphical Approach of Convolution Integral
- Lecture 35 - Network Stability and Network Synthesis
- Lecture 36 - Impedance Parameters
- Lecture 37 - Admittance Parameters
- Lecture 38 - Hybrid Parameters
- Lecture 39 - Transmission Parameters
- Lecture 40 - Interconnection of Networks
- Lecture 41 - Nodal and Mesh Analysis
- Lecture 42 - Superposition Theorem and Source Transformation
- Lecture 43 - Thevenin's, Norton's and, Maximum Power Transfer Theorem
- Lecture 44 - Magnetically Coupled Circuits
- Lecture 45 - Energy in Coupled Circuits and Ideal Transformer
- Lecture 46 - Ideal Transformer and Introduction to Three-Phase Circuits
- Lecture 47 - Balanced Three-Phase Connections
- Lecture 48 - Balanced Wye-Delta and Delta-Delta Connections
- Lecture 49 - Balanced Delta-Wye Connection and Power in Balanced Three-Phase System
- Lecture 50 - Unbalanced Three-Phase System and Three-Phase Power Measurement
- Lecture 51 - Introduction to Graphical Models
- Lecture 52 - State Equations
- Lecture 53 - State Diagram
- Lecture 54 - State Transition Matrix
- Lecture 55 - State Variable Method to Circuit Analysis
- Lecture 56 - Characteristic Equation, Eigenvalues, and Eigenvectors-State Variable Analysis (Continued...)
- Lecture 57 - Modeling of Mechanical Systems
- Lecture 58 - Modeling of The Rotational Motion of Mechanical Systems
- Lecture 59 - Modeling of Electrical Systems
- Lecture 60 - Solving Analogous Systems