

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

NPTEL Video Course - Electrical Engineering - NOC:Network Analysis

Subject Co-ordinator - Prof. T.K. Bhattacharya

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction
Lecture 2 - Voltage and Current Sources
Lecture 3 - Simple Networks with Voltage and Current Sources
Lecture 4 - Mesh Analysis - I
Lecture 5 - Mesh Analysis - II
Lecture 6 - Nodal Analysis - I
Lecture 7 - Nodal Analysis - II
Lecture 8 - Nodal Analysis - III
Lecture 9 - Inductor - I
Lecture 10 - Initial Condition for Inductor
Lecture 11 - Energy Stored in Inductor with Example
Lecture 12 - R-L Series Circuit Analysis
Lecture 13 - Retrieving Energy or Discharging of Inductor Energy
Lecture 14 - Capacitor
Lecture 15 - Charging of a Capacitor - Voltage, Current and Energy During Charging
Lecture 16 - Discharge of a Charged Capacitor
Lecture 17 - Linearity of R,L,C - Inductor with Initial Current and Capacitor with Initial Voltage
Lecture 18 - General Method for Solving Linear Differential Equation - I
Lecture 19 - General Method for Solving Linear Differential Equation - II
Lecture 20 - General Method for Solving Linear Differential Equation - III
Lecture 21 - Problem Solving
Lecture 22 - R-L Circuit with Sinusoidal Excitation
Lecture 23 - R-C Circuit with Sinusoidal Exponential
Lecture 24 - Solution Due to Exponential Forcing Function
Lecture 25 - Mesh and Nodal Analysis with Time Varying Source
Lecture 26 - Circuit Analysis with Phasor - I
Lecture 27 - Circuit Analysis with Phasor - II
Lecture 28 - Circuit Analysis with Phasor - III
Lecture 29 - Concept of Active and Reactive Power in A.C Circuit - I

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- Lecture 30 - Concept of Active and Reactive Power in A.C Circuit - II
- Lecture 31 - Expression for Complex Power in A.C Circuit
- Lecture 32 - Numerical Example
- Lecture 33 - Mesh and Nodal Analysis in A.C Circuit, Introduction to Impulse Function
- Lecture 34 - Odd and Even Functions, Relation between Unit Step and Impulse Function
- Lecture 35 - Solution of Differential Equation with Impulse Excitation
- Lecture 36 - Numerical Example when Excitation is Impulse
- Lecture 37 - Self and Mutual Inductances - I
- Lecture 38 - Dot Convention in Mutually Coupled Coils
- Lecture 39 - Mutually Coupled Coils in Series and Parallel
- Lecture 40 - Energy Stored in Mutually Coupled Coils
- Lecture 41 - Steady State Response with Sinusoidal Excitation when the Coils are Mutually Coupled
- Lecture 42 - Basics of Signals in Brief
- Lecture 43 - Laplace Transform - I
- Lecture 44 - Laplace Transform - II
- Lecture 45 - Laplace Transform Applied to Circuit Analysis - I
- Lecture 46 - Laplace Transform Applied to Circuit Analysis - II
- Lecture 47 - Numerical Examples - I
- Lecture 48 - Numerical Examples - II
- Lecture 49 - General Second Order Circuit Analysis with L.T - I
- Lecture 50 - General Second Order Circuit Analysis with L.T - II
- Lecture 51 - Network Theorem - I
- Lecture 52 - Network Theorem - II
- Lecture 53 - Norton's Theorem
- Lecture 54 - Thevenin Theorem
- Lecture 55 - Star-Delta and Delta-Star Transformation
- Lecture 56 - Telligen's Theorem
- Lecture 57 - Reciprocity Theorem
- Lecture 58 - Maximum Power Transfer Theorem
- Lecture 59 - Graph Theory Applied to Network Analysis - I
- Lecture 60 - Graph Theory Applied to Network Analysis - II
- Lecture 61 - Graph Theory Applied to Network Analysis - III
- Lecture 62 - Graph Theory Applied to Network Analysis - IV
- Lecture 63 - Graph Theory Applied to Network Analysis - V
- Lecture 64 - Mesh Analysis with Graph Theory
- Lecture 65 - Nodal Analysis with Graph Theory
- Lecture 66 - Cut-Set Analysis with Graph Theory
- Lecture 67 - Numerical Examples of Network Analysis with Graph Theory
- Lecture 68 - Circuit Analysis with Dependent Sources - I

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- Lecture 69 - Circuit Analysis with Dependent Sources - II
- Lecture 70 - Circuit Analysis with Dependent Sources - III
- Lecture 71 - Two Port Network - I
- Lecture 72 - Two Port Network - II
- Lecture 73 - Two Port Network - III
- Lecture 74 - Two Port Network - IV
- Lecture 75 - Two Port Network - V
- Lecture 76 - Two Port Network - VI
- Lecture 77 - Two Port Network - VII
- Lecture 78 - Gyrator
- Lecture 79 - Ideal Op - Amp
- Lecture 80 - Examples of Ideal Op-Amp Circuits - I
- Lecture 81 - Examples of Ideal Op-Amp Circuits - II
- Lecture 82 - General Impedance Transfer Circuit and Concluding Remarks