

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

NPTEL Video Course - Electrical Engineering - Nonlinear Dynamical Systems

Subject Co-ordinator - Prof. Harish K. Pillai, Prof. Madhu N. Belur

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Introduction

Lecture 2 - First Order systems

Lecture 3 - Classification of Equilibrium points

Lecture 4 - Lipschitz Functions

Lecture 5 - Existence/uniqueness theorems

Lecture 6 - Existence/uniqueness of solutions to differential equations

Lecture 7 - Lyapunov theorem on stability

Lecture 8 - Extension of Lyapunov's Theorem in different contexts

Lecture 9 - LaSalle's Invariance principle, Barbashin and Krasovski theorems, periodic orbits

Lecture 10 - Bendixson criterion and Poincare-Bendixson criterion. Example

Lecture 11 - Bendixson and Poincare-Bendixson criteria van-der-Pol Oscillator

Lecture 12 - Scilab simulation of Lotka Volterra predator prey model, van-der-Pol Oscillator Review of linear

Lecture 13 - Signals, operators

Lecture 14 - Norms of signals, systems (operators), Finite gain L2 stable

Lecture 15 - Nyquist plots and Nyquist criterion for stability

Lecture 16 - Interconnection between linear system & non-linearity, passive filters

Lecture 17 - Passive filters, Dissipation equality, positive real lemma

Lecture 18 - Positive real lemma proof

Lecture 19 - Definition for positive realness and Kalman Yakubovich-Popov Theorem

Lecture 20 - Kalman-Yakubovich-Popov Lemma/theorem and memoryless nonlinearities

Lecture 21 - Loop transformations and circle criterion

Lecture 22 - Nonlinearities based on circle criterion

Lecture 23 - Limit cycles

Lecture 24 - Popov criterion continuous, frequency-domain theorem

Lecture 25 - Popov criterion continuous, frequency-domain theorem

Lecture 26 - Describing function method

Lecture 27 - Describing Function

Lecture 28 - Describing

Lecture 29 - Describing

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

www.digimat.in

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

- Lecture 30 - Describing functions
- Lecture 31 - Describing functions
- Lecture 32 - Describing functions for nonlinearities
- Lecture 33 - Ideal relay with Hysteresis and dead zone
- Lecture 34 - Dynamical systems on manifolds-1
- Lecture 35 - Dynamical systems on manifolds-2

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

NPTEL Video Course - Electrical Engineering - Power System Dynamics and Control

Subject Co-ordinator - Dr. A.M. Kulkarni

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Introduction

Lecture 2 - Introduction

Lecture 3 - Analysis of Dynamical Systems

Lecture 4 - Analysis of Dynamical Systems (Continued.)

Lecture 5 - Analysis of LINEAR Time Invariant Dynamical Systems

Lecture 6 - Analysis of LINEAR Time Invariant Dynamical Systems (Continued.)

Lecture 7 - Stiff Systems, Multi Time Scale Modeling

Lecture 8 - Numerical Integration

Lecture 9 - Numerical Integration (Continued.)

Lecture 10 - Numerical Integration (Continued.)

Lecture 11 - Modeling of Synchronous Machines

Lecture 12 - Modeling of Synchronous Machines (Continued.)

Lecture 13 - Modeling of Synchronous Machines (Continued.)

Lecture 14 - Modeling of Synchronous Machines. dq0 transformation (Continued.)

Lecture 15 - Modeling of Synchronous Machines. Standard Parameters

Lecture 16 - Modeling of Synchronous Machines. Standard Parameters

Lecture 17 - Synchronous Generator Models using Standard Parameters

Lecture 18 - Synchronous Generator Models using Standard Parameters. PER UNIT REPRESENTATION

Lecture 19 - Open Circuit Response of a Synchronous Generator

Lecture 20 - Synchronous Machine Modeling. Short Circuit Analysis (Continued.)

Lecture 21 - Synchronous Machine Modeling. Short Circuit Analysis (Continued.) Synchronization of a Synchronous

Lecture 22 - Synchronization of a Synchronous Machine (Continued.)

Lecture 23 - Simplified Synchronous Machine Models

Lecture 24 - Excitation Systems

Lecture 25 - Excitation System Modeling

Lecture 26 - Excitation System Modeling. Automatic Voltage Regulator

Lecture 27 - Excitation System Modeling. Automatic Voltage Regulator (Continued.)

Lecture 28 - Excitation System Modeling. Automatic Voltage Regulator (Simulation)

Lecture 29 - Excitation System Modeling. Automatic Voltage Regulator (Simulation) â (Continued.)

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

www.digimat.in

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

- Lecture 30 - Excitation System Modeling. Automatic Voltage Regulator. Linearized Analysis
- Lecture 31 - Load Modeling
- Lecture 32 - Induction Machines, Transmission Lines
- Lecture 33 - Transmission Lines. Prime Mover Systems
- Lecture 34 - Transmission Lines (Continued.) Prime Mover Systems
- Lecture 35 - Prime Mover Systems. Stability in Integrated Power System
- Lecture 36 - Stability in Integrated Power System
- Lecture 37 - Two Machine System (Continued.)
- Lecture 38 - Stability in Integrated Power System
- Lecture 39 - Frequency/Angular Stability Programs. Stability Phenomena
- Lecture 40 - Voltage Stability Example (Continued.). Fast Transients
- Lecture 41 - Torsional Transients
- Lecture 42 - Sub-Synchronous Resonance. Stability Improvement
- Lecture 43 - Stability Improvement
- Lecture 44 - Stability Improvement. Power System Stabilizers
- Lecture 45 - Stability Improvement (Large Disturbance Stability)

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

NPTEL Video Course - Electrical Engineering - Control Engineering (Prof. S.D. Agashe)

Subject Co-ordinator - Prof. S.D. Agashe

Co-ordinating Institute - IIT - Bombay

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

- Lecture 1 - The Control Problem
- Lecture 2 - Some More Examples
- Lecture 3 - Different Kinds of Control Systems
- Lecture 4 - History of Feedback
- Lecture 5 - Modern Control Problems
- Lecture 6 - DC Motor Speed Control
- Lecture 7 - System Modelling, Analogy
- Lecture 8 - Causes of System Error
- Lecture 9 - Calculation of Error
- Lecture 10 - Control System Sensitivity
- Lecture 11 - Automatic Control of DC Motor
- Lecture 12 - Proportional Control
- Lecture 13 - Non-Unity Feedback
- Lecture 14 - Signal-Flow Graph
- Lecture 15 - Mason's Gain Formula
- Lecture 16 - Signal-Flow Graph for DC Motor Control
- Lecture 17 - Steady-State Calculations
- Lecture 18 - Differential Equation Model and Laplace Transformation Model
- Lecture 19 - D-Operator Method
- Lecture 20 - Second-Order System Response
- Lecture 21 - Frequency Response
- Lecture 22 - Laplace Transformation Theorems
- Lecture 23 - Final Value Theorem
- Lecture 24 - Transfer Function and Pole-Zero Diagram
- Lecture 25 - 'Good' Poles and 'Bad' Poles
- Lecture 26 - Signal Flow Graph with Transfer Functions
- Lecture 27 - s-Domain and t-Domain
- Lecture 28 - Second-Order System Response in s-Domain
- Lecture 29 - Integral Feedback

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

www.digimat.in

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

- Lecture 30 - Root-Locus Method
- Lecture 31 - Root-Locus Rules
- Lecture 32 - Asymptotes of Root Locus
- Lecture 33 - Routh Array
- Lecture 34 - Singular Cases
- Lecture 35 - Closed Loop Poles
- Lecture 36 - Controller in the Forwarded Path
- Lecture 37 - Mapping of Control in the Complex-Plane
- Lecture 38 - Encirclement by a Curve
- Lecture 39 - Nyquist Criterion
- Lecture 40 - Application of the Nyquist Criterion
- Lecture 41 - Polar Plot and Bode Plots
- Lecture 42 - Logarithmic Scale for Frequency
- Lecture 43 - 'Asymptotic' DB Gain
- Lecture 44 - Compensating Network
- Lecture 45 - Nichols' Chart
- Lecture 46 - Time Domain Methods of Analysis and Design
- Lecture 47 - State-Variable Equations

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

NPTEL Video Course - Electrical Engineering - Power Electronics

Subject Co-ordinator - Prof. Kishore Chatterjee, Prof. B.G. Fernandes

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Power Electronics
Lecture 2 - Power Electronics
Lecture 3 - Power Electronics
Lecture 4 - Power Electronics
Lecture 5 - Power Electronics
Lecture 6 - Power Electronics
Lecture 7 - Power Electronics
Lecture 8 - Power Electronics
Lecture 9 - Power Electronics
Lecture 10 - Power Electronics
Lecture 11 - Power Electronics
Lecture 12 - Power Electronics
Lecture 13 - Power Electronics
Lecture 14 - Power Electronics
Lecture 15 - Power Electronics
Lecture 16 - Power Electronics
Lecture 17 - Power Electronics
Lecture 18 - Power Electronics
Lecture 19 - Power Electronics
Lecture 20 - Power Electronics
Lecture 21 - Power Electronics
Lecture 22 - Power Electronics
Lecture 23 - Power Electronics
Lecture 24 - Power Electronics
Lecture 25 - Power Electronics
Lecture 26 - Power Electronics
Lecture 27 - Power Electronics
Lecture 28 - Power Electronics
Lecture 29 - Power Electronics

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

www.digimat.in

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

Lecture 30 - Power Electronics
Lecture 31 - Power Electronics
Lecture 32 - Power Electronics
Lecture 33 - Power Electronics
Lecture 34 - Power Electronics
Lecture 35 - Power Electronics
Lecture 36 - Power Electronics
Lecture 37 - Power Electronics
Lecture 38 - Power Electronics
Lecture 39 - Power Electronics
Lecture 40 - Power Electronics
Lecture 41 - Power Electronics
Lecture 42 - Power Electronics
Lecture 43 - Power Electronics

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

NPTEL Video Course - Electrical Engineering - Fabrication of Silicon VLSI Circuits using the MOS technology

Subject Co-ordinator - Prof. A.N. Chandorkar

Co-ordinating Institute - IIT - Bombay

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

- Lecture 1 - Introduction Micro to Nano A Journey into Intergrated Circuit Technology
- Lecture 2 - Introduction Micro to Nano A Journey into Intergrated Circuit Technology
- Lecture 3 - Crystal Properties and Silico Growth
- Lecture 4 - Crystal Properties and Silico Growth (Continued...)
- Lecture 5 - IC Fab Labs and Fabrication of IC
- Lecture 6 - Diffusion
- Lecture 7 - Diffusion (Continued...)
- Lecture 8 - Solid State Diffusion
- Lecture 9 - Solid State Diffusion (Continued...)
- Lecture 10 - Solid State Diffusion (Continued...)
- Lecture 11 - Thermal Oxidation of Silicons
- Lecture 12 - Thermal Oxidation of Silicons
- Lecture 13 - Thermal Oxidation of Silicons
- Lecture 14 - Thermal Oxidation of Silicons (Continued...)
- Lecture 15 - Thermal Oxidation of Silicons (Continued...)
- Lecture 16 - Lithography
- Lecture 17 - Lithography
- Lecture 18 - Lithography
- Lecture 19 - ION Implantation
- Lecture 20 - ION Implantation
- Lecture 21 - ION Implantation and Silicon IC Processing Flow for CMOS Technology
- Lecture 22 - ION Implantation and Silicon IC Processing Flow for CMOS Technology
- Lecture 23 - Silicon IC Processing Flow for CMOS Technology
- Lecture 24 - Thin Film Deposition
- Lecture 25 - Thin Film Deposition
- Lecture 26 - Thin Film Deposition
- Lecture 27 - Thin Film Deposition and Etching in VLSI Processing
- Lecture 28 - Etching in VLSI Processing and Back -End Technology

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

www.digimat.in

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

NPTEL Video Course - Electrical Engineering - NOC:Computational Electromagnetics and Applications

Subject Co-ordinator - Prof.Krish Sankaran

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Lecture 1
Lecture 2 - Lecture 2
Lecture 3 - Lecture 3
Lecture 4 - Exercise 1
Lecture 5 - Exercise 2
Lecture 6 - Exercise 3
Lecture 7 - Lab Tour 1
Lecture 8 - Summary week 1
Lecture 9 - Lecture 4
Lecture 10 - Lecture 5
Lecture 11 - Exercise 4
Lecture 12 - Exercise 5
Lecture 13 - Exercise 6
Lecture 14 - Summary Week 2
Lecture 15 - Lecture 6
Lecture 16 - Lecture 7
Lecture 17 - Lecture 8
Lecture 18 - Exercise 7
Lecture 19 - Exercise 8
Lecture 20 - Summary Week 3
Lecture 21 - Lecture 9
Lecture 22 - Lecture 10
Lecture 23 - Lecture 11
Lecture 24 - Lecture 12
Lecture 25 - Lecture 13
Lecture 26 - Lecture 14
Lecture 27 - Exercise 9
Lecture 28 - Lab Tour - 2
Lecture 29 - Summary Week 4

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

www.digimat.in

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

Lecture 30 - Lecture 15
Lecture 31 - Lecture 16
Lecture 32 - Lecture 17
Lecture 33 - Lecture 18
Lecture 34 - Exercise 10
Lecture 35 - Summary week 5
Lecture 36 - Lecture 19
Lecture 37 - Lecture 20
Lecture 38 - Lecture 21
Lecture 39 - Lecture 22
Lecture 40 - Exercise 11
Lecture 41 - Summary week 6
Lecture 42 - Exercise 12
Lecture 43 - Exercise 13
Lecture 44 - Exercise 14
Lecture 45 - Exercise 15
Lecture 46 - Exercise 16
Lecture 47 - Exercise 17
Lecture 48 - Summary week 7
Lecture 49 - Lecture 23
Lecture 50 - Lecture 24
Lecture 51 - Lecture 25
Lecture 52 - Exercise 18
Lecture 53 - Exercise 19
Lecture 54 - Lab tour 3
Lecture 55 - Summary week 8
Lecture 56 - Lecture 26
Lecture 57 - Lecture 27
Lecture 58 - Lecture 28
Lecture 59 - Lecture 29
Lecture 60 - Lecture 30
Lecture 61 - Lecture 31
Lecture 62 - Lab tour 4
Lecture 63 - Summary week 9
Lecture 64 - Lecture 32
Lecture 65 - Lecture 33
Lecture 66 - Lecture 34
Lecture 67 - Lecture 35
Lecture 68 - Exercise 20

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

www.digimat.in

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

Lecture 69 - Lab tour 5
Lecture 70 - Summary week 10
Lecture 71 - Lecture 36
Lecture 72 - Lecture 37
Lecture 73 - Lecture 38
Lecture 74 - Lecture 39
Lecture 75 - Lecture 40
Lecture 76 - Summary week 11
Lecture 77 - Lecture 41
Lecture 78 - Lecture 42
Lecture 79 - Lecture 43
Lecture 80 - Lecture 44
Lecture 81 - Exercise 21
Lecture 82 - Exercise 22
Lecture 83 - Summary week 12

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

NPTEL Video Course - Electrical Engineering - NOC:Basic Electronics

Subject Co-ordinator - Prof. Mahesh B. Patil

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - A brief history of electronics
Lecture 2 - Superposition
Lecture 3 - Useful circuit techniques - 1
Lecture 4 - Useful circuit techniques - 2
Lecture 5 - Phasors - 1
Lecture 6 - Phasors - 2
Lecture 7 - RC/RL circuits in time domain - 1
Lecture 8 - RC/RL circuits in time domain - 2
Lecture 9 - RC/RL circuits in time domain - 3
Lecture 10 - RC/RL circuits in time domain - 4
Lecture 11 - RC/RL circuits in time domain - 5
Lecture 12 - Simulation of RC circuit
Lecture 13 - Diode circuits - 1
Lecture 14 - Diode circuits - 2
Lecture 15 - Diode circuits - 3
Lecture 16 - Diode circuits - 4
Lecture 17 - Diode circuits - 5
Lecture 18 - Diode circuits - 6
Lecture 19 - Diode rectifiers - 1
Lecture 20 - Diode rectifiers - 2
Lecture 21 - Diode rectifiers - 3
Lecture 22 - Bipolar Junction Transistor - 1
Lecture 23 - Bipolar Junction Transistor - 2
Lecture 24 - Bipolar Junction Transistor - 3
Lecture 25 - BJT amplifier - 1
Lecture 26 - BJT amplifier - 2
Lecture 27 - BJT amplifier - 3
Lecture 28 - BJT amplifier - 4
Lecture 29 - BJT amplifier - 5

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

www.digimat.in

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

- Lecture 30 - BJT amplifier - 6
- Lecture 31 - BJT amplifier - 7
- Lecture 32 - Introduction to op-amps
- Lecture 33 - Op-amp circuits - 1
- Lecture 34 - Op-amp circuits - 2
- Lecture 35 - Op-amp circuits - 3
- Lecture 36 - Difference amplifier
- Lecture 37 - Instrumentation amplifier - 1
- Lecture 38 - Instrumentation amplifier - 2
- Lecture 39 - Op-amp nonidealities - 1
- Lecture 40 - Op-amp nonidealities - 2
- Lecture 41 - Bode plots - 1
- Lecture 42 - Bode plots - 2
- Lecture 43 - Bode plots - 3
- Lecture 44 - Op-amp filters
- Lecture 45 - Simulation of op-amp filter
- Lecture 46 - Precision rectifiers - 1
- Lecture 47 - Precision rectifiers - 2
- Lecture 48 - Precision rectifiers - 3
- Lecture 49 - Simulation of triangle-to-sine converter
- Lecture 50 - Schmitt triggers - 1
- Lecture 51 - Schmitt triggers - 2
- Lecture 52 - Schmitt triggers - 3
- Lecture 53 - Sinusoidal oscillators - 1
- Lecture 54 - Sinusoidal oscillators - 2
- Lecture 55 - Introduction to digital circuits
- Lecture 56 - Boolean algebra
- Lecture 57 - Karnaugh maps
- Lecture 58 - Combinatorial circuits - 1
- Lecture 59 - Combinatorial circuits - 2
- Lecture 60 - Combinatorial circuits - 3
- Lecture 61 - Introduction to sequential circuits
- Lecture 62 - Latch and flip-flop
- Lecture 63 - JK flip-flop
- Lecture 64 - D flip-flop
- Lecture 65 - Shift registers
- Lecture 66 - Counters - 1
- Lecture 67 - Counters - 2
- Lecture 68 - Simulation of a synchronous counter

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

www.digimat.in

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

- Lecture 69 - 555 timer
- Lecture 70 - Digital-to-analog conversion - 1
- Lecture 71 - Digital-to-analog conversion - 2
- Lecture 72 - Analog-to-digital conversion

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

NPTEL Video Course - Electrical Engineering - NOC:Antennas

Subject Co-ordinator - Prof. Girish Kumar

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Antenna Introduction - I
Lecture 2 - Antenna Introduction - II
Lecture 3 - Antenna Introduction - III
Lecture 4 - Antenna Fundamentals - I
Lecture 5 - Antenna Fundamentals - II
Lecture 6 - Antenna Radiation Hazards - I
Lecture 7 - Antenna Radiation Hazards - II
Lecture 8 - Dipole Antennas - I
Lecture 9 - Dipole Antennas - II
Lecture 10 - Dipole Antennas - III
Lecture 11 - Monopole Antennas - I
Lecture 12 - Monopole Antennas - II
Lecture 13 - Loop Antennas
Lecture 14 - Slot Antennas
Lecture 15 - Linear Arrays - I
Lecture 16 - Linear Arrays - II
Lecture 17 - Linear Arrays - III
Lecture 18 - Planar Arrays
Lecture 19 - Microstrip Antennas (MSA)
Lecture 20 - Rectangular MSA
Lecture 21 - MSA Parametric Analysis - I
Lecture 22 - MSA Parametric Analysis - II
Lecture 23 - Circular MSA
Lecture 24 - Broadband MSA - I
Lecture 25 - Broadband MSA - II
Lecture 26 - Broadband MSA - III
Lecture 27 - Broadband MSA - IV
Lecture 28 - Broadband MSA - V
Lecture 29 - Compact MSA - I

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

www.digimat.in

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

- Lecture 30 - Compact MSA - II
- Lecture 31 - Compact MSA - III
- Lecture 32 - Tunable MSA - I
- Lecture 33 - Tunable MSA - II
- Lecture 34 - Circularly Polarized MSA - I
- Lecture 35 - Circularly Polarized MSA - II
- Lecture 36 - Circularly Polarized MSA - III
- Lecture 37 - MSA Arrays - I
- Lecture 38 - MSA Arrays - II
- Lecture 39 - MSA Arrays - III
- Lecture 40 - Helical Antennas - I
- Lecture 41 - Helical Antennas - II
- Lecture 42 - Helical Antennas - III
- Lecture 43 - Helical Antennas - IV
- Lecture 44 - Helical Antennas - V
- Lecture 45 - Horn Antennas - I
- Lecture 46 - Horn Antennas - II
- Lecture 47 - Horn Antennas - III
- Lecture 48 - Horn Antennas - IV
- Lecture 49 - Horn Antennas - V
- Lecture 50 - Yagi-Uda and Log-Periodic Antennas - I
- Lecture 51 - Yagi-Uda and Log-Periodic Antennas - II
- Lecture 52 - Yagi-Uda and Log-Periodic Antennas - III
- Lecture 53 - IE3D Session TA - I
- Lecture 54 - IE3D Session TA - II
- Lecture 55 - IE3D Session TA - III
- Lecture 56 - Reflector Antennas - I
- Lecture 57 - Reflector Antennas - II
- Lecture 58 - Reflector Antennas - III
- Lecture 59 - Reflector Antennas - IV
- Lecture 60 - Lab Session

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

NPTEL Video Course - Electrical Engineering - NOC:Fundamentals of Wavelets, Filter Banks and Time Frequency Analysis

Subject Co-ordinator - Prof. V.M. Gadre

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Module 1 - Lecture 1 - Introduction
Lecture 2 - Module 1 - Lecture 2 - Origin of Wavelets
Lecture 3 - Module 1 - Lecture 3 - Haar Wavelet
Lecture 4 - Module 2 - Lecture 1 - Dyadic Wavelet
Lecture 5 - Module 2 - Lecture 2 - Dilates and Translates of Haar Wavelets
Lecture 6 - Module 2 - Lecture 3 - L2 Norm of a Function
Lecture 7 - Module 3 - Lecture 1 - Piecewise Constant Representation of a Function
Lecture 8 - Module 3 - Lecture 2 - Ladder of Subspaces
Lecture 9 - Module 3 - Lecture 3 - Scaling Function for Haar Wavelet Demo
Lecture 10 - Demonstration 1
Lecture 11 - Module 4 - Lecture 1 - Vector Representation of Sequences
Lecture 12 - Module 4 - Lecture 2 - Properties of Norm
Lecture 13 - Module 4 - Lecture 3 - Parseval's Theorem
Lecture 14 - Module 5 - Lecture 1 - Equivalence of sequences and functions
Lecture 15 - Module 5 - Lecture 2 - Angle between Functions and their Decomposition
Lecture 16 - Demonstration 2
Lecture 17 - Module 6 - Lecture 1 - Introduction to filter banks
Lecture 18 - Module 6 - Lecture 2 - Haar Analysis Filter Bank in Z-domain
Lecture 19 - Module 6 - Lecture 3 - Haar Synthesis Filter Bank in Z-domain
Lecture 20 - Module 7 - Lecture 1 - Moving from Z-domain to frequency domain
Lecture 21 - Module 7 - Lecture 2 - Frequency Response of Haar Analysis Low pass Filter bank
Lecture 22 - Module 7 - Lecture 3 - Frequency Response of Haar Analysis High pass Filter bank
Lecture 23 - Module 8 - Lecture 1 - Ideal two-band filter bank
Lecture 24 - Module 8 - Lecture 2 - Disqualification of Ideal filter bank
Lecture 25 - Module 8 - Lecture 3 - Realizable two-band filter bank
Lecture 26 - Demonstration 3
Lecture 27 - Module 9 - Lecture 1 - Relating Fourier transform of scaling function to filter bank
Lecture 28 - Module 9 - Lecture 2 - Fourier transform of scaling function
Lecture 29 - Module 9 - Lecture 3 - Construction of scaling and wavelet functions from filter bank

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

www.digimat.in

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

- Lecture 30 - Demonstration 4
- Lecture 31 - Module 10 - Lecture 1 - Introduction to upsampling and down sampling as Multirate operations
- Lecture 32 - Module 10 - Lecture 2 - Up sampling by a general factor M- a Z-domain analysis.
- Lecture 33 - Module 10 - Lecture 3 - Down sampling by a general factor M- a Z-domain analysis
- Lecture 34 - Module 11 - Lecture 1 - Z domain analysis of 2 channel filter bank.
- Lecture 35 - Module 11 - Lecture 2 - Effect of X (-Z) in time domain and aliasing
- Lecture 36 - Module 11 - Lecture 3 - Consequences of aliasing and simple approach to avoid it
- Lecture 37 - Module 12 - Lecture 1 - Revisiting aliasing and the Idea of perfect reconstruction
- Lecture 38 - Module 12 - Lecture 2 - Applying perfect reconstruction and alias cancellation on Haar MRA
- Lecture 39 - Module 12 - Lecture 3 - Introduction to Daubechies family of MRA
- Lecture 40 - Module 13 - Lecture 1 - Power Complementarity of low pass filter
- Lecture 41 - Module 13 - Lecture 2 - Applying perfect reconstruction condition to obtain filter coefficient
- Lecture 42 - Module 14 - Lecture 1 - Effect of minimum phase requirement on filter coefficients
- Lecture 43 - Module 14 - Lecture 2 - Building compactly supported scaling functions
- Lecture 44 - Module 14 - Lecture 3 - Second member of Daubechies family
- Lecture 45 - Module 15 - Lecture 1 - Fourier transform analysis of Haar scaling and Wavelet functions
- Lecture 46 - Module 15 - Lecture 2 - Revisiting Fourier Transform and Parseval's theorem
- Lecture 47 - Module 15 - Lecture 3 - Transform Analysis of Haar Wavelet function
- Lecture 48 - Module 16 - Lecture 1 - Nature of Haar scaling and Wavelet functions in frequency domain
- Lecture 49 - Module 16 - Lecture 2 - The Idea of Time-Frequency Resolution
- Lecture 50 - Module 16 - Lecture 3 - Some thoughts on Ideal time- frequency domain behavior
- Lecture 51 - Module 17 - Lecture 1 - Defining Probability Density function
- Lecture 52 - Module 17 - Lecture 2 - Defining Mean, Variance and \hat{A} containment in a given domain \hat{A}
- Lecture 53 - Module 17 - Lecture 3 - Example
- Lecture 54 - Module 17 - Lecture 4 - Variance from a slightly different perspective
- Lecture 55 - Module 18 - Lecture 1 - Signal transformations
- Lecture 56 - Module 18 - Lecture 2 - Time-Bandwidth product and its properties
- Lecture 57 - Module 18 - Lecture 3 - Simplification of Time-Bandwidth formulae
- Lecture 58 - Module 19 - Lecture 1 - Introduction
- Lecture 59 - Module 19 - Lecture 2 - Evaluation of Time-Bandwidth product
- Lecture 60 - Module 19 - Lecture 3 - Optimal function in the sense of Time-Bandwidth product
- Lecture 61 - Module 20 - Lecture 1 - Discontent with the \hat{A} Optimal function \hat{A} .
- Lecture 62 - Module 20 - Lecture 2 - Journey from infinite to finite Time-Bandwidth product of Haar scaling f
- Lecture 63 - Module 20 - Lecture 3 - More insights about Time-Bandwidth product
- Lecture 64 - Module 20 - Lecture 4 - Time-frequency plane
- Lecture 65 - Module 20 - Lecture 5 - Tiling the Time-frequency plane
- Lecture 66 - Module 21 - Lecture 1 - STFT
- Lecture 67 - Module 21 - Lecture 2 - STFT
- Lecture 68 - Module 21 - Lecture 3 - STFT

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

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

- Lecture 69 - Module 21 - Lecture 4 - Continuous Wavelet Transform (CWT)
- Lecture 70 - Demonstration 5
- Lecture 71 - Student's Presentation

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

NPTEL Video Course - Electrical Engineering - NOC:Analog Circuits (2017)

Subject Co-ordinator - Prof. Jayanta Mukherjee

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Module 1 - Introduction
Lecture 2 - Module 2 - Poles and zeros
Lecture 3 - Module 3 - OP-AMPS
Lecture 4 - Module 4 - Application of Op-Amps
Lecture 5 - Module 5 - Inverting amplifier and Non Inverting amplifier
Lecture 6 - Module 1 - Non Idealities in Op-AMP (Finite Gain, Finite Bandwidth and Slew Rate)
Lecture 7 - Module 2 - Non Idealities in Op-AMP (Offset Voltage and Bias Current)
Lecture 8 - Module 3 - Bode Plot
Lecture 9 - Module 4 - Frequency Response
Lecture 10 - Module 1 - Frequency Response (High Frequency Response)
Lecture 11 - Module 2 - Frequency Response example
Lecture 12 - Module 3 - Feedback
Lecture 13 - Module 4 - Effects of Feedback
Lecture 14 - Tutorial 1 and 2
Lecture 15 - Module 1 - Effect of feedback and stability
Lecture 16 - Module 2 - Stability
Lecture 17 - Module 3 - Stability and pole location
Lecture 18 - Module 4 - Stability and Pole location continuation
Lecture 19 - Tutorial 3
Lecture 20 - Module 1 - Gain Margin \hat{A} An example
Lecture 21 - Module 2 - Frequency Compensation
Lecture 22 - Module 3 - Filters
Lecture 23 - Module 4 - Filter prototypes
Lecture 24 - Tutorial 4
Lecture 25 - Tutorial 5
Lecture 26 - Tutorial 6
Lecture 27 - Module 1 - Chebyshev Prototype, Filter transformation
Lecture 28 - Module 2 - Filter Transformations (Continued....)
Lecture 29 - Module 3 - Active Filters

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

www.digimat.in

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

- Lecture 30 - Module 4 - Non Linear Applications of OPAMPS
- Lecture 31 - Module 5 - Limiter, Diodes
- Lecture 32 - Module 1 - Oscillators
- Lecture 33 - Module 2 - Oscillator Amplitude Control , Quadrature Oscillator
- Lecture 34 - Module 3 - Multivibrators
- Lecture 35 - Module 4 - Multivibrators (Continued...)
- Lecture 36 - Module 5 - Monostable Multivibrator
- Lecture 37 - Module 1 - Zener Effect, Rectifiers
- Lecture 38 - Module 2 - Rectifiers
- Lecture 39 - Module 3 - Clamper, Peak Rectifier, Super diodes
- Lecture 40 - Module 4 - BJT DC Circuits
- Lecture 41 - Module 5 - Current Mirror

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

NPTEL Video Course - Electrical Engineering - NOC: Microwave Theory and Techniques

Subject Co-ordinator - Prof. Girish Kumar

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Microwave Theory and Techniques Introduction - I
Lecture 2 - Microwave Theory and Techniques Introduction - II
Lecture 3 - Microwave Theory and Techniques Introduction - III
Lecture 4 - Effects of Microwaves on Human Body - I
Lecture 5 - Effects of Microwaves on Human Body - II
Lecture 6 - Waveguides - I
Lecture 7 - Waveguides - II
Lecture 8 - Waveguides - III
Lecture 9 - Transmission Lines - I
Lecture 10 - Transmission Lines - II
Lecture 11 - Smith Chart and Impedance Matching - I
Lecture 12 - Smith Chart and Impedance Matching - II
Lecture 13 - Smith Chart and Impedance Matching - III
Lecture 14 - ABCD - Parameters
Lecture 15 - S - Parameters
Lecture 16 - Power Dividers - I
Lecture 17 - Power Dividers - II
Lecture 18 - Microwave Couplers - I
Lecture 19 - Microwave Couplers - II
Lecture 20 - Microwave Couplers - III
Lecture 21 - Microwave Filters - I
Lecture 22 - Microwave Filters - II
Lecture 23 - Microwave Filters - III
Lecture 24 - Microwave Filters - IV
Lecture 25 - Microwave Filters - V
Lecture 26 - Microwave Diodes
Lecture 27 - Microwave Attenuators
Lecture 28 - Microwave RF Switches
Lecture 29 - Series and Shunt SPDT Switches and Introduction to Phase Shifters

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

www.digimat.in

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

- Lecture 30 - Microwave Phase Shifters
- Lecture 31 - Microwave Transistors
- Lecture 32 - Microwave Amplifiers - I
- Lecture 33 - Microwave Amplifiers - II
- Lecture 34 - Microwave Amplifiers - III
- Lecture 35 - Low Noise Amplifiers - I
- Lecture 36 - Low Noise Amplifiers - II
- Lecture 37 - Power Amplifiers
- Lecture 38 - Microwave Tubes - I
- Lecture 39 - Microwave Tubes - II
- Lecture 40 - Microwave Tubes - III
- Lecture 41 - Microwave Oscillators - I
- Lecture 42 - Microwave Oscillators - II
- Lecture 43 - Microwave Mixers - I
- Lecture 44 - Microwave Mixers - II
- Lecture 45 - Microwave Mixers - III
- Lecture 46 - Fundamentals of Antennas
- Lecture 47 - Dipole, Monopole, loop and Slot Antennas
- Lecture 48 - Linear and Planar Arrays
- Lecture 49 - Microstrip Antennas
- Lecture 50 - Horn and Helical Antennas
- Lecture 51 - Yagi - Uda, Log-Periodic and Reflector Antennas
- Lecture 52 - RF MEMS and Microwave Imaging
- Lecture 53 - Microwave Systems
- Lecture 54 - Microwave Measurements and Lab Demonstration
- Lecture 55 - CST Software Introduction with Filter Design
- Lecture 56 - Power Divider and Combiner Design in CST
- Lecture 57 - Hybrid Coupler Design
- Lecture 58 - Antenna Design and Amplifier Simulation in CST
- Lecture 59 - Mixer Design in NI AWR Software - I
- Lecture 60 - Mixer Design in NI AWR Software - II

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

NPTEL Video Course - Electrical Engineering - NOC:Principles of Digital Communications

Subject Co-ordinator - Prof. S.N. Merchant

Co-ordinating Institute - IIT - Bombay

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

- Lecture 1 - Course Overview
- Lecture 2 - Introduction to Information Theory
- Lecture 3 - Entropy and its properties
- Lecture 4 - Lossless Source Coding Theorem
- Lecture 5 - Prefix Codes and Kraft's Inequality
- Lecture 6 - Huffman Coding
- Lecture 7 - Discrete Memory-less Channels
- Lecture 8 - Channel Capacity - I
- Lecture 9 - Channel Capacity - II
- Lecture 10 - Channel Coding Theorem
- Lecture 11 - Differential Entropy - I
- Lecture 12 - Differential Entropy - II
- Lecture 13 - Channel Capacity - III
- Lecture 14 - Channel Capacity - IV
- Lecture 15 - Summary of Information Theory
- Lecture 16 - Signal Space Representations - I
- Lecture 17 - Signal Space Representations - II
- Lecture 18 - Vector Representation of a Random Process
- Lecture 19 - AWGN Vector Channel
- Lecture 20 - Basics of Signal Detection
- Lecture 21 - ML,MAP Detectors for AWGN Channel
- Lecture 22 - Optimal Receiver
- Lecture 23 - Probability of error for Optimal Receiver
- Lecture 24 - Probability of Error for M-ary Scheme
- Lecture 25 - Pulse Code Modulation
- Lecture 26 - Uniform Quantizer
- Lecture 27 - Step Size and Quantization Noise
- Lecture 28 - Non-uniform Quantizer (Lloyd-Max Quantizer)
- Lecture 29 - Companded Quantization - I

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

www.digimat.in

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

- Lecture 30 - Companded Quantization - II
- Lecture 31 - Differential Pulse Code Modulation DPCM - I
- Lecture 32 - DPCM-II (Linear Prediction)
- Lecture 33 - Delta Modulation
- Lecture 34 - M-ary PCM/PAM - I
- Lecture 35 - M-ary PCM/PAM - II
- Lecture 36 - Line Coding - I
- Lecture 37 - Line Coding - II
- Lecture 38 - Line Coding - III
- Lecture 39 - Pulse Shaping for Zero ISI - I
- Lecture 40 - Pulse Shaping for Zero ISI - II
- Lecture 41 - Pulse Shaping for Zero ISI - III
- Lecture 42 - Partial Response Signaling - I
- Lecture 43 - Partial Response Signaling - II
- Lecture 44 - Principle of Invariance of Probability of Error
- Lecture 45 - Binary ASK and PSK
- Lecture 46 - Binary Frequency Shift Keying - I
- Lecture 47 - Binary Frequency Shift Keying - II
- Lecture 48 - Quadrature Phase Shift Keying - I
- Lecture 49 - Quadrature Phase Shift Keying - II
- Lecture 50 - Quadrature Phase Shift Keying - III
- Lecture 51 - Continuous Phase Frequency Shift Keying
- Lecture 52 - Minimum Shift Keying - I
- Lecture 53 - Minimum Shift Keying - II
- Lecture 54 - M-ary Coherent ASK (M-ASK)
- Lecture 55 - M-ary PSK
- Lecture 56 - M-ary Quadrature Amplitude Modulation (M-QAM)
- Lecture 57 - M-ary FSK
- Lecture 58 - Comparison of M-ary Schemes
- Lecture 59 - Non-coherent BFSK
- Lecture 60 - Differential Phase Shift Keying
- Lecture 61 - Channel Coding - I
- Lecture 62 - Channel Coding - II
- Lecture 63 - Channel Coding - III
- Lecture 64 - Channel Coding
- Lecture 65 - Channel Coding

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

NPTEL Video Course - Electrical Engineering - Circuit Theory

Subject Co-ordinator - Prof. S.C. Dutta Roy

Co-ordinating Institute - IIT - Delhi

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

Lecture 1 - Review of Signals and Systems
Lecture 2 - Review of Signals and Systems
Lecture 3 - Network Equations; Initial and Final Conditions
Lecture 4 - Problem Session 1
Lecture 5 - Step, Impulse and Complete Responses
Lecture 6 - 2nd Order Circuits
Lecture 7 - Transformer Transform Domain Analysis
Lecture 8 - Problem Session 2
Lecture 9 - Network Theorems and Network Functions
Lecture 10 - Network Functions (Continued.)
Lecture 11 - Amplitude and Phase of Network Functions
Lecture 12 - Problem Session 3
Lecture 13 - Poles, Zeros and Network Response
Lecture 14 - Single Tuned Circuits
Lecture 15 - Single Tuned Circuits (Continued.)
Lecture 16 - Double Tuned Circuits
Lecture 17 - Double Tuned Circuits (Continued.)
Lecture 18 - Problem Session 4
Lecture 19 - Double Tuned Circuits (Continued.)
Lecture 20 - Concept of Delay and Introduction
Lecture 21 - Two-port Networks (Continued.)
Lecture 22 - Problem Session 5
Lecture 23 - Minor - 1
Lecture 24 - The Hybrid & Transmission Parameters of 2 ports
Lecture 25 - Problem Session 6
Lecture 26 - Two - port Network parameters
Lecture 27 - Two-port Interconnections
Lecture 28 - Interconnection of Two-port Networks (Continued.)
Lecture 29 - Problem Session 7

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

www.digimat.in

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

- Lecture 30 - Scattering Matrix
- Lecture 31 - Scattering Parameters of a Two-port
- Lecture 32 - Problem Session 8
- Lecture 33 - Solutions of Minor - 2 Problems
- Lecture 34 - Insertion Loss
- Lecture 35 - Example of Insertion Loss and Elements
- Lecture 36 - Elements of Realizability Theory (Continued.)
- Lecture 37 - Positive Real Functions
- Lecture 38 - Testing of Positive Real Functions
- Lecture 39 - Problem Session 9
- Lecture 40 - More on PRF's and their Synthesis
- Lecture 41 - LC Driving Point Functions
- Lecture 42 - LC Driving Point Synthesis (Continued.)
- Lecture 43 - RC and RL Driving Point Synthesis
- Lecture 44 - Problem Session 10
- Lecture 45 - RC & RL One-port Synthesis (Continued.)
- Lecture 46 - Elementary RLC One-port Synthesis
- Lecture 47 - Properties and Synthesis of Transfer Parameters
- Lecture 48 - Resistance Terminated LC Ladder
- Lecture 49 - Resistance Terminated LC Ladder (Continued.)
- Lecture 50 - Problem session 11
- Lecture 51 - Network Transmission Criteria

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

NPTEL Video Course - Electrical Engineering - Control Engineering (Prof. M. Gopal)

Subject Co-ordinator - Prof. M. Gopal

Co-ordinating Institute - IIT - Delhi

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

- Lecture 1 - Introduction to control problem
- Lecture 2 - Basic Feedback Structure
- Lecture 3 - Introduction to Control Problem (Continued.)
- Lecture 4 - Dynamic Systems and Dynamic Response
- Lecture 5 - Dynamic Systems and Dynamic Response (Continued.)
- Lecture 6 - Dynamic Systems and Dynamic Response (Continued.)
- Lecture 7 - Dynamic Systems and Dynamic Response (Continued.)
- Lecture 8 - Dynamic Systems and Dynamic Response (Continued.)
- Lecture 9 - Dynamic Systems and Dynamic Response (Continued.)
- Lecture 10 - Models of Industrial Control Devices and Systems
- Lecture 11 - Models of Industrial Control Devices and Systems (Continued.)
- Lecture 12 - Models of Industrial Control Devices and Systems(Continued.)
- Lecture 13 - Models of Industrial Control Devices and Systems(Continued.)
- Lecture 14 - Models of Industrial Control Devices and Systems(Continued.)
- Lecture 15 - Models of Industrial Control Devices and Systems(Continued.)
- Lecture 16 - Models of Industrial Control Devices and Systems (Continued.)
- Lecture 17 - Models of Industrial Control Devices and Systems (Continued.)
- Lecture 18 - Models of Industrial Control Devices and Systems (Continued.)
- Lecture 19 - Basic Principles of Feedback Control
- Lecture 20 - Basic Principles of Feedback Control (Continued.)
- Lecture 21 - Basic Principles of Feedback Control (Continued.)
- Lecture 22 - Basic Principles of Feedback Control (Continued.)
- Lecture 23 - Concepts of stability and Routh Stability Criterion
- Lecture 24 - Concepts of stability and Routh Stability Criterion (Continued.)
- Lecture 25 - Concepts of stability and Routh Stability Criterion (Continued.)
- Lecture 26 - The Performance of Feedback Systems
- Lecture 27 - The Performance of Feedback Systems (Continued.)
- Lecture 28 - The Performance of Feedback Systems (Continued.)
- Lecture 29 - The Performance of Feedback Systems (Continued.)

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

www.digimat.in

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

- Lecture 30 - Compensator Design Using Root Locus Plots
- Lecture 31 - Compensator Design Using Root Locus Plots (Continued.)
- Lecture 32 - Compensator Design Using Root Locus Plots (Continued.)
- Lecture 33 - Compensator Design Using Root Locus Plots (Continued.)
- Lecture 34 - Compensator Design Using Root Locus Plots (Continued.)
- Lecture 35 - The Nyquist Stability Criterion and Stability Margins
- Lecture 36 - The Nyquist Stability Criterion and Stability Margins (Continued.)
- Lecture 37 - The Nyquist Stability Criterion and Stability Margins (Continued.)
- Lecture 38 - The Nyquist Stability Criterion and Stability Margins (Continued.)
- Lecture 39 - Feedback System Performance Based on the Frequency Response
- Lecture 40 - Feedback System Performance Based on the Frequency Response (Continued.)
- Lecture 41 - Compensator Design Using Frequency Response Plots

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

NPTEL Video Course - Electrical Engineering - Embedded Systems

Subject Co-ordinator - Prof. Santanu Chaudhary

Co-ordinating Institute - IIT - Delhi

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

- Lecture 1 - Embedded Systems
- Lecture 2 - Embedded Hardware
- Lecture 3 - PIC
- Lecture 4 - PIC Peripherals On Chip
- Lecture 5 - ARM Processor
- Lecture 6 - More ARM Instructions
- Lecture 7 - ARM
- Lecture 8 - Digital Signal Processors
- Lecture 9 - More on DSP Processors
- Lecture 10 - System On Chip (SOC)
- Lecture 11 - Memory
- Lecture 12 - Memory Organization
- Lecture 13 - Virtual Memory and Memory Management Unit
- Lecture 14 - Bus Structure
- Lecture 15 - Bus Structure - 2
- Lecture 16 - Bus Structure - 3 Serial Interfaces
- Lecture 17 - Serial Interfaces
- Lecture 18 - Power Aware Architecture
- Lecture 19 - Software for Embedded Systems
- Lecture 20 - Fundamentals of Embedded Operating Systems
- Lecture 21 - Scheduling Policies
- Lecture 22 - Resource Management
- Lecture 23 - Embedded - OS
- Lecture 24 - Networked Embedded Systems - I
- Lecture 25 - Networked Embedded Systems - II
- Lecture 26 - Networked Embedded Systems - III
- Lecture 27 - Networked Embedded Systems - IV
- Lecture 28 - Designing Embedded Systems - I
- Lecture 29 - Designing Embedded Systems - II

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

www.digimat.in

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

- Lecture 30 - Designing Embedded Systems- III
- Lecture 31 - Embedded System Design - IV
- Lecture 32 - Designing Embedded Systems - V
- Lecture 33 - Platform Based Design
- Lecture 34 - Compilers for Embedded Systems
- Lecture 35 - Developing Embedded Systems
- Lecture 36 - Building Dependable Embedded Systems
- Lecture 37 - Pervasive and Ubiquitous Computing

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

NPTEL Video Course - Electrical Engineering - Power System Generation, Transmission and Distribution (Encapsu

Subject Co-ordinator - Prof. D.P. Kothari

Co-ordinating Institute - IIT - Delhi

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

- Lecture 1 - Electric Energy Systems A Perspective
- Lecture 2 - Structure of Power Systems
- Lecture 3 - Conventional Sources of Electric Energy
- Lecture 4 - Hydroelectric Power Generation
- Lecture 5 - Non Conventional Energy Sources
- Lecture 6 - Renewable Energy (Continued.)
- Lecture 7 - Energy Storage
- Lecture 8 - Deregulation
- Lecture 9 - Air Pollutants
- Lecture 10 - Transmission Line Parameters
- Lecture 11 - Capacitance of Transmission Lines
- Lecture 12 - Characteristics and Performance of Transmission Lines
- Lecture 13 - Voltage Regulation (VR)
- Lecture 14 - Power Flow through a Line
- Lecture 15 - Methods of Voltage Control
- Lecture 16 - Compensation of Transmission Lines
- Lecture 17 - Compensation of Transmission Lines (Continued.)
- Lecture 18 - Underground Cables
- Lecture 19 - Cables (Continued.)
- Lecture 20 - Insulators for Overhead Lines
- Lecture 21 - HVDC
- Lecture 22 - HVDC (Continued.)
- Lecture 23 - Distribution Systems
- Lecture 24 - Automatic Generation Control
- Lecture 25 - Automatic Generation Control (Continued.)
- Lecture 26 - Load Flow Studies
- Lecture 27 - Load Flow Problem
- Lecture 28 - Load Flow Analysis (Continued.), Gauss Siedel Method
- Lecture 29 - Newton Raphson (NR), Load Flow Method

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

www.digimat.in

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

- Lecture 30 - Fast Decoupled Load Flow
- Lecture 31 - Control of Voltage Profile
- Lecture 32 - Optimal System Operation (Economic Operation)
- Lecture 33 - Optimal Unit Commitment
- Lecture 34 - Optimal Generation Scheduling
- Lecture 35 - Optimal Load Flow (Continued.) and Hydro Thermal Scheduling

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

NPTEL Video Course - Electrical Engineering - Power System Dynamics

Subject Co-ordinator - Dr. M.L. Kothari

Co-ordinating Institute - IIT - Delhi

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

- Lecture 1 - Introduction to Power System Stability Problem - Part-1
- Lecture 2 - Introduction to Power System Stability Problem - Part-2
- Lecture 3 - Introduction to Power System Stability Problem - Part-3
- Lecture 4 - Solution of Switching Equation
- Lecture 5 - The Equal Area Criterion for Stability - Part-1
- Lecture 6 - The Equal Area Criterion for Stability - Part-2
- Lecture 7 - Transient Stability Analysis of a Multi Machine System
- Lecture 8 - Modeling of Synchronous Machine - Part-1
- Lecture 9 - Modeling of Synchronous Machine - Part-2
- Lecture 10 - Modeling of Synchronous Machine - Part-3
- Lecture 11 - Modeling of Synchronous Machine - Part-4
- Lecture 12 - Synchronous Machine Representation for Stability Studies - Part-1
- Lecture 13 - Synchronous Machine Representation for Stability Studies - Part-2
- Lecture 14 - Excitation Systems - Part-1
- Lecture 15 - Excitation Systems - Part-2
- Lecture 16 - Modeling of Excitation Systems - Part-1
- Lecture 17 - Modeling of Excitation Systems - Part-2
- Lecture 18 - Small Signal Stability of a Single Machine Infinite Bus System - Part-1
- Lecture 19 - Small Signal Stability of a Single Machine Infinite Bus System - Part-2
- Lecture 20 - Small Signal Stability of a Single Machine Infinite Bus System - Part-3
- Lecture 21 - Small Signal Stability of a Single Machine Infinite Bus System - Part-4
- Lecture 22 - Small Signal Stability of a Single Machine Infinite Bus System - Part-5
- Lecture 23 - Dynamic Modeling of Steam turbines and Governors
- Lecture 24 - Dynamic modeling of Hydro Turbines and Governors
- Lecture 25 - Load modeling for Stability Studies
- Lecture 26 - Numerical Integration Methods for Solving a Set of Ordinary Nonlinear Differential Equation
- Lecture 27 - Simulation of Power System Dynamic Response
- Lecture 28 - Dynamic Equivalents for Large Scale Systems - Part-1
- Lecture 29 - Dynamic Equivalents for Large Scale Systems - Part-2

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

www.digimat.in

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

- Lecture 30 - Dynamic Equivalents for Large Scale Systems - Part-3
- Lecture 31 - Direct Method of Transient Stability Analysis - Part-1
- Lecture 32 - Direct Method of Transient Stability Analysis - Part-2
- Lecture 33 - Sub Synchronous Oscillations - Part-1
- Lecture 34 - Sub Synchronous Oscillations - Part-2
- Lecture 35 - Voltage Stability - Part-1
- Lecture 36 - Voltage Stability - Part-2
- Lecture 37 - Voltage Stability - Part-3
- Lecture 38 - Voltage Stability - Part-4
- Lecture 39 - Methods of Improving Stability - Part-1
- Lecture 40 - Methods of Improving Stability - Part-2

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

NPTEL Video Course - Electrical Engineering - Analog Electronic Circuits

Subject Co-ordinator - Prof. S.C. Dutta Roy

Co-ordinating Institute - IIT - Delhi

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

- Lecture 1 - Review of DC Models of Diodes & BJT's
- Lecture 2 - Review of DC Models of BJT (Continued...) and FET
- Lecture 3 - FET Characteristics and Models
- Lecture 4 - Problem Session-1 on DC Analysis of BJT Circuits
- Lecture 5 - BJT Biasing and Bias Stability
- Lecture 6 - BJT Bias Stability (Continued...)
- Lecture 7 - FET Biasing, Current Sources
- Lecture 8 - Problem Session-2 on FET and BJT Characteristics and Biasing
- Lecture 9 - Current Mirrors; BJT Small Signal Models
- Lecture 10 - Small Signal Amplifiers
- Lecture 11 - Mid Frequency Analysis of the CE and CB Amplifier
- Lecture 12 - Problem Session-3 on Mid- Frequency Analysis of CE Amplifiers
- Lecture 13 - Midband Analysis of CB and CC Amplifiers
- Lecture 14 - Midband Analysis of FET Amplifiers
- Lecture 15 - Problem Session-4 on Midband Analysis of Amplifiers
- Lecture 16 - High Frequency Response of Small Signal Amplifiers
- Lecture 17 - High Frequency Response of Small Signal Amplifiers (Continued...)
- Lecture 18 - Low Frequency Response of Small Signal Amplifiers
- Lecture 19 - Problem Session-5 on Frequency Response of Small Signal Amplifiers
- Lecture 20 - Differential Amplifiers
- Lecture 21 - Differential Amplifiers (Continued...)
- Lecture 22 - Discussion on Minor-1 Problems and Differential Amplifiers (Continued...)
- Lecture 23 - Problem Session-6 on Frequency Response of Small Signal Amplifiers (Continued...) and Differential
- Lecture 24 - Use of Current Mirrors in Differential Amplifiers
- Lecture 25 - FET Differential Amplifiers and Introduction to Power Amplifiers
- Lecture 26 - Class B, Class AB and Class A Power Amplifiers
- Lecture 27 - Class A Power Amplifiers; Efficiency Considerations
- Lecture 28 - Problem Session-7 on Differential and Power Amplifiers
- Lecture 29 - Introduction to Feedback Amplifiers

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

www.digimat.in

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

- Lecture 30 - Advantages of Negative Feedback Amplifiers
- Lecture 31 - Analysis of Feedback Amplifiers
- Lecture 32 - Analysis of the Series - Series and Other Feedback Configurations
- Lecture 33 - Problem Session-8 on Feedback Amplifiers
- Lecture 34 - Sinusoidal Oscillators
- Lecture 35 - More on Oscillators
- Lecture 36 - Solutions to Minor-2 Exam and Concluding Discussions on Oscillators
- Lecture 37 - Problem Session-9 on Oscillators
- Lecture 38 - Tuned (or Narrowband) Amplifiers
- Lecture 39 - Widebanding Techniques
- Lecture 40 - Widebanding By Using an Inductance
- Lecture 41 - Problem Session-10 on Tuned Amplifiers
- Lecture 42 - Widebanding by Using Compound Devices
- Lecture 43 - Cascode Configuration as Wideband Amplifier
- Lecture 44 - Widebanding by Local Feedback
- Lecture 45 - Problem Session-11 on Minor-3 Problems & Widebanding by Compound Devices
- Lecture 46 - Widebanding by Local Feedback and Feedback Cascades
- Lecture 47 - Widebanding by Overall Feedback and Dual Loop Feedback
- Lecture 48 - The Differential Pair and the Gilbert Cell as Wideband Amplifiers
- Lecture 49 - Correction to Gilbert Cell Analysis and Operational Amplifier Imperfections
- Lecture 50 - Op-Amp offsets, Compensation and Slew Rate
- Lecture 51 - Op-Amp Compensation, Slew Rate and Some Problems

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

NPTEL Video Course - Electrical Engineering - Digital Communication

Subject Co-ordinator - Prof. Surendra Prasad

Co-ordinating Institute - IIT - Delhi

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

- Lecture 1 - Introduction to the Course
- Lecture 2 - Digital Representation of Analog Signals, Delta Modulation
- Lecture 3 - Digital Representation of Analog Signals, Pulse Code Modulation
- Lecture 4 - Digital Representation of Analog Signals
- Lecture 5 - Quantization Noise in Delta Modulation (Continued...) and Time Division Multiplexing
- Lecture 6 - Introduction to Line Coding
- Lecture 7 - Spectral Properties of Line Codes
- Lecture 8 - Spectral Properties of Line Codes
- Lecture 9 - Spectral Properties of Line Codes
- Lecture 10 - Baseband Pulse Shaping
- Lecture 11 - Baseband Pulse Shaping; Raised Cosine Family of Pulses
- Lecture 12 - Partial Response Signalling
- Lecture 13 - Precoding for Duobinary and Modified Duobinary Systems
- Lecture 14 - Precoding for Modified Duobinary Systems (Continued...) and General Partial Response Signalling
- Lecture 15 - Binary Baseband Digital Modulation Techniques
- Lecture 16 - Mâ ary Baseband Digital Modulation Techniques
- Lecture 17 - Passband Digital Modulations - I
- Lecture 18 - Passband Digital Modulations - II
- Lecture 19 - Passband Digital Modulations - III
- Lecture 20 - Passband Digital Modulations - IV
- Lecture 21 - Passband Modulations for Band Limited Channels
- Lecture 22 - Baseband and Passband Digital Demodulations
- Lecture 23 - Digital Modulation Part - II Matched Filters
- Lecture 24 - Matched Filters and Coherent Demodulation-I
- Lecture 25 - Coherent Demodulation for Binary Wave Form
- Lecture 26 - Demodulators for Binary Waveforms (Continued...)
- Lecture 27 - Performance Analysis of Binary Digital Modulations
- Lecture 28 - Error Rates for Binary Signalling
- Lecture 29 - Performance of Non Coherent FSK and Differential Phase Shift Keying

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

www.digimat.in

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

- Lecture 30 - Demodulation of DPSK and M^{ary} Signals
- Lecture 31 - Performance of M^{ary} Digital Modulations
- Lecture 32 - Performance of M^{ary} Digital Modulations (Continued...)
- Lecture 33 - Introduction to Information Theory, Part-1
- Lecture 34 - Source Coding
- Lecture 35 - Error Free Communication Over a Noisy Channel
- Lecture 36 - The Concept of Channel Capacity
- Lecture 37 - Error Correcting Codes
- Lecture 38 - Error Correcting Codes (Continued...)

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

NPTEL Video Course - Electrical Engineering - Introduction To Electronic Circuits

Subject Co-ordinator - Prof. S.C. Dutta Roy

Co-ordinating Institute - IIT - Delhi

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

- Lecture 1 - Introduction to the Course and Basic Electrical Quantity
- Lecture 2 - R.L.C. Components, Energy Considerations, Sources and Circuit Laws
- Lecture 3 - KCL, KVL and Network Analysis
- Lecture 4 - Networks Theorems (Thevenin's Norton's)
- Lecture 5 - Source Transformation; Super Position Theorem and Non-Linear One-Ports
- Lecture 6 - Signal Wave Forms
- Lecture 7 - Periodic Wave Forms and Elements of Amplifiers
- Lecture 8 - Operational Amplifiers and Diodes
- Lecture 9 - Rectifiers and Power Supplies
- Lecture 10 - Wave Shaping Circuits
- Lecture 11 - More on Wave Shaping Circuits and Introduction to Natural Response of Circuits
- Lecture 12 - Natural Response (Continued...)
- Lecture 13 - Natural Response of 2nd Order Circuit
- Lecture 14 - Natural Response of 2nd Order Circuit (Continued...)
- Lecture 15 - Impedance Functions, Poles, Zeros and their Applications
- Lecture 16 - Natural Response and Poles and Zeros and Introduction to Forced Response
- Lecture 17 - Phasors and their Applications in AC Ckts, analysis
- Lecture 18 - More About Phasors and Introduction to Complete Response
- Lecture 19 - Complete Response of Electrical Circuits
- Lecture 20 - AC Circuit Analysis
- Lecture 21 - Filter Circuits and Resonance
- Lecture 22 - Resonance (Continued...)
- Lecture 23 - General Network Analysis
- Lecture 24 - Two-Port Networks
- Lecture 25 - Semiconductor Physics
- Lecture 26 - Semiconductor Physics (Continued...)
- Lecture 27 - More About Diodes Including Zener Diodes
- Lecture 28 - Bipolar Junction Transistors
- Lecture 29 - Transistors Characteristics and Biasing

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

www.digimat.in

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

- Lecture 30 - BJT Biasing and Introduction to Power Amplifiers
- Lecture 31 - BJT Power Amplifiers
- Lecture 32 - Power Amplifier
- Lecture 33 - Power Amplifiers (Continued...) and an Introduction to Small Signal Modelling of BJT
- Lecture 34 - Small Signal Model and Small Signal Amplifiers
- Lecture 35 - Small Signal Amplifiers (Continued...)
- Lecture 36 - Small Signal Amplifier (Continued...)
- Lecture 37 - Small Signal Amplifiers (Continued...)
- Lecture 38 - Negative Feedback
- Lecture 39 - Digital Circuits
- Lecture 40 - Digital Circuits (Continued...)

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

NPTEL Video Course - Electrical Engineering - NOC:Analog Electronic Circuit

Subject Co-ordinator - Dr. Shouribrata Chatterjee

Co-ordinating Institute - IIT - Delhi

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

Lecture 1 - Introduction to Analog Circuits Introduction to the Diode
Lecture 2 - Diodes, Introduction to The Transistor
Lecture 3 - MOS Device, Characteristics
Lecture 4 - DC operating point
Lecture 5 - DC operating point, amplifier design
Lecture 6 - Common source amplifier, small signal analysis
Lecture 7 - Common gate, common drain
Lecture 8 - Common gate circuit
Lecture 9 - Source degenerated amplifier
Lecture 10 - Swing limits
Lecture 11 - Swing limits (Continued...), multi transistor amplifiers
Lecture 12 - Multi-transistor amplifiers
Lecture 13 - Introduction to current sources
Lecture 14 - Current sources/mirrors (Continued...)
Lecture 15 - Current sources, biasing
Lecture 16 - Differential circuits
Lecture 17 - Differential amplifiers-I
Lecture 18 - Differential amplifiers-II
Lecture 19 - Differential amplifiers-III
Lecture 20 - Self biased active load diff. amp
Lecture 21 - Diff. Cascode amplifier, two stage amplifiers
Lecture 22 - Two stage diff. amps, op-amps
Lecture 23 - Op-amps, OTAs
Lecture 24 - Circuits with op-amps
Lecture 25 - Capacitance in MOS devices
Lecture 26 - Common source, drain, gate-revisited
Lecture 27 - Common gate, common drain with capacitances
Lecture 28 - Cascode, cascade-revisit with capacitance
Lecture 29 - Cascade amplifier (with capacitance)

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

www.digimat.in

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

- Lecture 30 - Diversion
- Lecture 31 - Diversion Continued
- Lecture 32 - Compensation
- Lecture 33 - Op-amp Design with Compensation
- Lecture 34 - Unity Gain Bandwidth
- Lecture 35 - Power Amplification
- Lecture 36 - Power Amplifiers-2
- Lecture 37 - Power Amplifiers- Class A,B,AB,C ClassD
- Lecture 38 - Class D Amplifiers, Push-pull Amplifiers
- Lecture 39 - Introduction to Voltage Regulators
- Lecture 40 - Voltage Regulators- line, load; Conclusion Regulation

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

NPTEL Video Course - Electrical Engineering - NOC:Nonlinear and Adaptive Control

Subject Co-ordinator - Prof. Shubhendu Bhasin

Co-ordinating Institute - IIT - Delhi

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

Lecture 1 - Introduction

Lecture 2 - Preliminaries

Lecture 3 - Model Reference Adaptive Control - Part 1

Lecture 4 - Model Reference Adaptive Control - Part 2

Lecture 5 - Model Reference Adaptive Control - Part 3

Lecture 6 - Adaptive Command Tracking

Lecture 7 - Robust Model Reference Adaptive Control - Part 1

Lecture 8 - Robust Model Reference Adaptive Control - Part 2

Lecture 9 - Robust Model Reference Adaptive Control - Part 3

Lecture 10 - Robust Model Reference Adaptive Control - Part 4

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

NPTEL Video Course - Electrical Engineering - NOC:Information Theory, Coding and Cryptography

Subject Co-ordinator - Prof. Ranjan Bose

Co-ordinating Institute - IIT - Delhi

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

- Lecture 1 - Introduction to Information Theory
- Lecture 2 - Entropy, Mutual Information, Conditional and Joint Entropy
- Lecture 3 - Measures for Continuous, Random Variable, Relative Entropy
- Lecture 4 - Variable Length Codes, Prefix Codes
- Lecture 5 - Source Coding Theorem
- Lecture 6 - various source coding Techniques
- Lecture 7 - Optimum Quantizer, Practical Application of Source Coding
- Lecture 8 - Introduction to Super Information
- Lecture 9 - Channel Models and Channel Capacity
- Lecture 10 - Noisy Channel Coding Theorem
- Lecture 11 - Gaussian Channel and Information Capacity Theorem
- Lecture 12 - Capacity of MIMO Channels
- Lecture 13 - Introduction to Error Control Coding
- Lecture 14 - Introduction to Galois Field
- Lecture 15 - Equivalent Codes, Generator Matrix and Parity Check Matrix
- Lecture 16 - Systematic Codes, Error Detections and Correction
- Lecture 17 - Erasure and Errors, Standard Array and Syndrome Decoding
- Lecture 18 - Probability of Error, Coding Gain and Hamming Bound
- Lecture 19 - Hamming Codes, LDPC Codes and MDS Codes
- Lecture 20 - Introduction to Cyclic Codes
- Lecture 21 - Generator Polynomial, Syndrome Polynomial and Matrix Representation
- Lecture 22 - Fire Code, Golay Code, CRC Codes and Circuit Implementation of Cyclic Codes
- Lecture 23 - Introduction to BCH Codes
- Lecture 24 - Multiple Error Correcting BCH Codes, Decoding of BCH Codes
- Lecture 25 - Introduction to Reed Solomon (RS) Codes
- Lecture 26 - Introduction to Convolutional Codes
- Lecture 27 - Trellis Codes
- Lecture 28 - Vitrebi Decoding and Known good Convolutional Codes
- Lecture 29 - Introduction to Turbo Codes

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

www.digimat.in

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

- Lecture 30 - Introduction to Trellis Coded Modulation (TCM)
- Lecture 31 - Ungerboeck's Design Rules and Performance Evaluation of TCM Schemes
- Lecture 32 - TCM for Fading Channel and Space Time Trellis Codes (STTC)
- Lecture 33 - Introduction to Space Time Block Codes (STBC)
- Lecture 34 - Space Time Codes
- Lecture 35 - Space Time Codes (Continued...)
- Lecture 36 - Introduction to Cryptography
- Lecture 37 - Some Well-Known Algorithms
- Lecture 38 - Introduction to Physical Layer Security
- Lecture 39 - Secrecy Outage Capacity, Secrecy Outage Probability, Cooperative Jamming

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

NPTEL Video Course - Electrical Engineering - Advanced Control Systems

Subject Co-ordinator - Prof. S. Majhi

Co-ordinating Institute - IIT - Guwahati

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

- Lecture 1 - Introduction
- Lecture 2 - Control structures and performance measures
- Lecture 3 - Time and frequency domain performance measures
- Lecture 4 - Design of controller
- Lecture 5 - Design of controller for SISO system
- Lecture 6 - Controller design for TITO processes
- Lecture 7 - Limitations of PID controllers
- Lecture 8 - PI-PD controller for SISO system
- Lecture 9 - PID-P controller for Two Input Two Output system
- Lecture 10 - Effects of measurement noise and load
- Lecture 11 - Identification of dynamic models of plants
- Lecture 12 - Relay control system for identification
- Lecture 13 - Off-line identification of process dynamics
- Lecture 14 - On-line identification of plant dynamics
- Lecture 15 - State space based identification
- Lecture 16 - State space analysis of systems
- Lecture 17 - State space based identification of systems - 1
- Lecture 18 - State space based identification of systems - 2
- Lecture 19 - Identification of simple systems
- Lecture 20 - Identification of FOPDT model
- Lecture 21 - Identification of second order plus dead time model
- Lecture 22 - Identification of SOPDT model
- Lecture 23 - Steady state gain from asymmetrical relay test
- Lecture 24 - Identification of SOPDT model with pole multiplicity
- Lecture 25 - Existence of limit cycle for unstable system
- Lecture 26 - Identification procedures
- Lecture 27 - Identification of underdamped systems
- Lecture 28 - Off-line identification of TITO systems
- Lecture 29 - On-line identification of TITO systems

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

www.digimat.in

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

- Lecture 30 - Review of time domain based identification
- Lecture 31 - DF based analytical expressions for on-line identification
- Lecture 32 - Model parameter accuracy and sensitivity
- Lecture 33 - Improved identification using Fourier series and wavelet transform
- Lecture 34 - Reviews of DF based identification
- Lecture 35 - Advanced Smith predictor controller
- Lecture 36 - Design of controllers for the advanced Smith predictor
- Lecture 37 - Model-free controller design
- Lecture 38 - Model Based PID controller Design - I
- Lecture 39 - Model Based PI-PD controller Design - II
- Lecture 40 - Tuning of reconfigurable PID controllers

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

NPTEL Video Course - Electrical Engineering - NOC:Optimization Techniques for Digital VLSI Design

Subject Co-ordinator - Dr. Santosh Biswas, Prof. Chandan Karfa

Co-ordinating Institute - IIT - Guwahati

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

- Lecture 1 - Introduction to Digital VLSI Design Flow
- Lecture 2 - High-level Synthesis (HLS) flow with an example
- Lecture 3 - Automation of High-level Synthesis Steps
- Lecture 4 - Impact of Coding Style on HLS Results
- Lecture 5 - Impact of Compiler Optimizations on HLS Results
- Lecture 6 - RTL Optimizations for Timing
- Lecture 7 - Retiming
- Lecture 8 - RTL Optimizations for Area
- Lecture 9 - RTL Optimizations for Power
- Lecture 10 - High Level Synthesis
- Lecture 11 - Overview of FPGA Technology Mapping
- Lecture 12 - Introduction to Physical Synthesis
- Lecture 13 - Introduction to Digital VLSI Testing - I
- Lecture 14 - Introduction to Digital VLSI Testing - II
- Lecture 15 - Optimization Techniques for ATPG - Part I
- Lecture 16 - Optimization Techniques for ATPG - Part II
- Lecture 17 - Optimization Techniques for Design for Testability
- Lecture 18 - High-level fault modeling and RTL level Testing
- Lecture 19 - LTL/CTL based Verification
- Lecture 20 - Verification of Large Scale Systems
- Lecture 21 - BDD based verification
- Lecture 22 - Verification
- Lecture 23 - Verification
- Lecture 24 - Verification

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

www.digimat.in

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

NPTEL Video Course - Electrical Engineering - NOC:Advanced Topics in Probability and Random Processes

Subject Co-ordinator - Prof. Prabin K Bora

Co-ordinating Institute - IIT - Guwahati

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

- Lecture 1 - Probability Basics
- Lecture 2 - Random Variable - I
- Lecture 3 - Random Variable - II
- Lecture 4 - Random Vectors and Random Processes
- Lecture 5 - Infinite Sequence of Events - I
- Lecture 6 - Infinite Sequence of Events - II
- Lecture 7 - Convergence of Sequence of Random Variables
- Lecture 8 - Weak Convergence - I
- Lecture 9 - Weak Convergence - II
- Lecture 10 - Laws of Large Numbers
- Lecture 11 - Central Limit Theorem
- Lecture 12 - Large Deviation Theory
- Lecture 13 - Crammer's Theorem for Large Deviation
- Lecture 14 - Introduction to Markov Processes
- Lecture 15 - Discrete Time Markov Chain - 1
- Lecture 16 - Discrete Time Markov Chain - 2
- Lecture 17 - Discrete Time Markov Chain - 3
- Lecture 18 - Discrete Time Markov Chain - 4
- Lecture 19 - Discrete Time Markov Chain - 5
- Lecture 20 - Continuous Time Markov Chain - 1
- Lecture 21 - Continuous Time Markov Chain - 2
- Lecture 22 - Continuous Time Markov Chain - 3
- Lecture 23 - Martingale Process - 1
- Lecture 24 - Martingale Process - 2

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

www.digimat.in

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

NPTEL Video Course - Electrical Engineering - Advanced Electric Drives

Subject Co-ordinator - Dr. S.P. Das

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1
Lecture 2
Lecture 3
Lecture 4
Lecture 5
Lecture 6
Lecture 7
Lecture 8
Lecture 9
Lecture 10
Lecture 11
Lecture 12
Lecture 13
Lecture 14
Lecture 15
Lecture 16
Lecture 17
Lecture 18
Lecture 19
Lecture 20
Lecture 21
Lecture 22
Lecture 23
Lecture 24
Lecture 25
Lecture 26
Lecture 27
Lecture 28
Lecture 29

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

www.digimat.in

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

Lecture 30
Lecture 31
Lecture 32
Lecture 33
Lecture 34
Lecture 35
Lecture 36
Lecture 37
Lecture 38
Lecture 39
Lecture 40

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

www.digimat.in

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

NPTEL Video Course - Electrical Engineering - High Voltage DC Transmission

Subject Co-ordinator - Dr. S.N. Singh

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - High Voltage DC Transmission
Lecture 2 - High Voltage DC Transmission
Lecture 3 - High Voltage DC Transmission
Lecture 4 - High Voltage DC Transmission
Lecture 5 - High Voltage DC Transmission
Lecture 6 - High Voltage DC Transmission
Lecture 7 - High Voltage DC Transmission
Lecture 8 - High Voltage DC Transmission
Lecture 9 - High Voltage DC Transmission
Lecture 10 - High Voltage DC Transmission
Lecture 11 - High Voltage DC Transmission
Lecture 12 - High Voltage DC Transmission
Lecture 13 - High Voltage DC Transmission
Lecture 14 - High Voltage DC Transmission
Lecture 15 - High Voltage DC Transmission
Lecture 16 - High Voltage DC Transmission
Lecture 17 - High Voltage DC Transmission
Lecture 18 - High Voltage DC Transmission
Lecture 19 - High Voltage DC Transmission
Lecture 20 - High Voltage DC Transmission
Lecture 21 - High Voltage DC Transmission
Lecture 22 - High Voltage DC Transmission
Lecture 23 - High Voltage DC Transmission
Lecture 24 - High Voltage DC Transmission
Lecture 25 - High Voltage DC Transmission
Lecture 26 - High Voltage DC Transmission
Lecture 27 - High Voltage DC Transmission
Lecture 28 - High Voltage DC Transmission
Lecture 29 - High Voltage DC Transmission

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

www.digimat.in

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

Lecture 30 - High Voltage DC Transmission
Lecture 31 - High Voltage DC Transmission
Lecture 32 - High Voltage DC Transmission
Lecture 33 - High Voltage DC Transmission
Lecture 34 - High Voltage DC Transmission
Lecture 35 - High Voltage DC Transmission
Lecture 36 - High Voltage DC Transmission
Lecture 37 - High Voltage DC Transmission

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

NPTEL Video Course - Electrical Engineering - Intelligent Systems and Control

Subject Co-ordinator - Prof. Laxmidhar Behera

Co-ordinating Institute - IIT - Kanpur

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

- Lecture 1 - Introduction to Intelligent Systems and Control
- Lecture 2 - Linear Neural networks
- Lecture 3 - Multi layered Neural Networks
- Lecture 4 - Back Propagation Algorithm revisited
- Lecture 5 - Non Linear System Analysis - Part I
- Lecture 6 - Non Linear System Analysis - Part II
- Lecture 7 - Radial Basis Function Networks
- Lecture 8 - Adaptive Learning rate
- Lecture 9 - Weight update rules
- Lecture 10 - Recurrent networks Back propagation through time
- Lecture 11 - Recurrent networks Real time recurrent learning
- Lecture 12 - Self organizing Map - Multidimensional networks
- Lecture 13 - Fuzzy sets - A Primer
- Lecture 14 - Fuzzy Relations
- Lecture 15 - Fuzzy Rule base and Approximate Reasoning
- Lecture 16 - Introduction to Fuzzy Logic Control
- Lecture 17 - Neural Control A review
- Lecture 18 - Network inversion and Control
- Lecture 19 - Neural Model of a Robot manipulator
- Lecture 20 - Indirect Adaptive Control of a Robot manipulator
- Lecture 21 - Adaptive neural control for Affine Systems SISO
- Lecture 22 - Adaptive neural control for Affine systems MIMO
- Lecture 23 - Visual Motor Coordination with KSOM
- Lecture 24 - Visual Motor coordination - quantum clustering
- Lecture 25 - Direct Adaptive control of Manipulators - Intro
- Lecture 26 - NN based back stepping control
- Lecture 27 - Fuzzy Control - a Review
- Lecture 28 - Mamdani type flc and parameter optimization
- Lecture 29 - Fuzzy Control of a pH reactor

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

www.digimat.in

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

- Lecture 30 - Fuzzy Lyapunov controller - Computing with words
- Lecture 31 - Controller Design for a T-S Fuzzy model
- Lecture 32 - Linear controllers using T-S fuzzy model

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

NPTEL Video Course - Electrical Engineering - Power Systems Operation and Control

Subject Co-ordinator - Dr. S.N. Singh

Co-ordinating Institute - IIT - Kanpur

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

Module 1 - Lecture 1
Module 1 - Lecture 2
Module 1 - Lecture 3
Module 2 - Lecture 1
Module 2 - Lecture 2
Module 2 - Lecture 3
Module 2 - Lecture 4
Module 2 - Lecture 5
Module 2 - Lecture 6
Module 2 - Lecture 7
Module 2 - Lecture 8
Module 2 - Lecture 9
Module 2 - Lecture 10
Module 2 - Lecture 11
Module 2 - Lecture 12
Module 2 - Lecture 13
Module 2 - Lecture 14
Module 3 - Lecture 1
Module 3 - Lecture 2
Module 3 - Lecture 3
Module 3 - Lecture 4
Module 3 - Lecture 5
Module 3 - Lecture 6
Module 3 - Lecture 7
Module 3 - Lecture 8
Module 3 - Lecture 9
Module 3 - Lecture 10
Module 4 - Lecture 1
Module 4 - Lecture 2

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

www.digimat.in

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

Module 4 - Lecture 3
Module 4 - Lecture 4
Module 5 - Lecture 1
Module 5 - Lecture 2
Module 6 - Lecture 1
Module 6 - Lecture 2

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

NPTEL Video Course - Electrical Engineering - NOC:Electromagnetic theory

Subject Co-ordinator - Dr. Pradeep Kumar K

Co-ordinating Institute - IIT - Kanpur

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

- Lecture 1 - Introduction to EMT
- Lecture 2 - Coulombs law
- Lecture 3 - Vector analysis-I and Introduction to coordinate system
- Lecture 4 - Rectangular coordinate system
- Lecture 5 - Vector analysis-II
- Lecture 6 - Introduction to Electric field
- Lecture 7 - Electric field-I
- Lecture 8 - Cylindrical coordinate system
- Lecture 9 - Transformation and Electric field-II
- Lecture 10 - Electric Potential-I
- Lecture 11 - Spherical co-ordinate system and Electric potential-II
- Lecture 12 - Vector Analysis-III and Electric potential-III
- Lecture 13 - Gauss's law and its application-I
- Lecture 14 - Gauss's law and its application-II
- Lecture 15 - Divergence and Poisson's and Laplace's equation
- Lecture 16 - Gauss's law and its application -III
- Lecture 17 - Vector analysis $\hat{\text{A}}$ III (curl and its significance)
- Lecture 18 - Conductor and dielectric-I
- Lecture 19 - Polarization - I
- Lecture 20 - Polarization - II
- Lecture 21 - Polarization - II (Continued...)
- Lecture 22 - Boundary condition
- Lecture 23 - Continuity equation and Conductors - III
- Lecture 24 - Conductors $\hat{\text{A}}$ IV
- Lecture 25 - Conductors $\hat{\text{A}}$ IV (Continued...) and Capacitor - I
- Lecture 26 - Capacitor - II
- Lecture 27 - Capacitor - II (Continued...) and Equipotential Surfaces
- Lecture 28 - Solution of Laplace's equation-I
- Lecture 29 - Solution of Laplace's equation-I I and method of images-I

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

www.digimat.in

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

- Lecture 30 - Method of images-II
- Lecture 31 - Solution of Laplace's equation-III
- Lecture 32 - Solution of Laplace's equation-IV
- Lecture 33 - Introduction of magnetic field
- Lecture 34 - Biot savart law and its application
- Lecture 35 - Biot savart law and its application-II
- Lecture 36 - Magnetic vector potential
- Lecture 37 - Magnetic force, torque and dipole
- Lecture 38 - Magnetic force, torque and dipole (Continued...)
- Lecture 39 - Magnetic materials-I
- Lecture 40 - Magnetic materials-I (Continued...) and Magnetic moment
- Lecture 41 - Magnetic materials-I (Continued...) and Boundary condition for Magnetic fields
- Lecture 42 - Inductor and calculation of inductance for different shapes
- Lecture 43 - Inductor and calculation of inductance for different shapes (Continued...)
- Lecture 44 - Faradays law and its application-I
- Lecture 45 - Faradays law and its application-II
- Lecture 46 - Displacement current
- Lecture 47 - Maxwell's equation
- Lecture 48 - Wave propagation
- Lecture 49 - Solution of Helmholtz equation
- Lecture 50 - Uniform plane waves
- Lecture 51 - Polarization and Poynting Vector
- Lecture 52 - Wave reflections (Normal incidence)
- Lecture 53 - Waves in imperfect dielectrics and Good conductors
- Lecture 54 - Skin depth/effect
- Lecture 55 - Oblique incidence of waves
- Lecture 56 - Oblique incidence of waves (Continued...)
- Lecture 57 - Transmission line
- Lecture 58 - Transmission line model
- Lecture 59 - Steady state sinusoidal response of T-line-I
- Lecture 60 - Steady state sinusoidal response of T-line-II
- Lecture 61 - Steady state sinusoidal response of T-line-II and Smith chart
- Lecture 62 - Application of smith chart-I
- Lecture 63 - Application of smith chart-II
- Lecture 64 - Impedance matching
- Lecture 65 - Transients on Transmission line-I
- Lecture 66 - Transients on Transmission line-II
- Lecture 67 - Pulse on Transmission line
- Lecture 68 - Capacitive termination in Transmission line

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

www.digimat.in

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

- Lecture 69 - Waveguide
- Lecture 70 - Waveguide Analysis
- Lecture 71 - TM modes in Waveguide
- Lecture 72 - Rectangular waveguide
- Lecture 73 - Rectangular waveguide
- Lecture 74 - Waveguide
- Lecture 75 - Waveguide losses
- Lecture 76 - Dielectric Waveguide
- Lecture 77 - Dielectric Waveguide (Continued...)
- Lecture 78 - Radiation and Antenna
- Lecture 79 - Hertzian Dipole Antenna
- Lecture 80 - Hertzian Dipole Antenna (Continued...)
- Lecture 81 - Quasi-statistics-I
- Lecture 82 - Quasi-statistics-II
- Lecture 83 - Long wire Antenna
- Lecture 84 - Group velocity and Phase velocity
- Lecture 85 - Numerical solution of Laplace's equation

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

NPTEL Video Course - Electrical Engineering - NOC:Principles of Communication - Part 1

Subject Co-ordinator - Prof. Aditya K. Jagannatham

Co-ordinating Institute - IIT - Kanpur

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

- Lecture 1 - Basics - Definition of Energy and Power of Signals
- Lecture 2 - Frequency Domain Representation and Introduction to Discrete Fourier Series
- Lecture 3 - Discrete Fourier Series Example and Parseval's Theorem for Periodic Signals
- Lecture 4 - Fourier Transform (FT), Inverse Fourier Transform (IFT) of Continuous Signals, Example of FT of P
- Lecture 5 - Modulation Property of Fourier Transform, Dirac Delta or Unit Impulse Function - Definition and F
- Lecture 6 - Duality Property of Fourier Transform and Introduction to Linear Time Invariant (LTI) Systems
- Lecture 7 - Transmission of Signal through Linear Time Invariant (LTI) Systems and Cross- Correlation of Sign
- Lecture 8 - Auto-Correlation of Signal and Energy Spectral Density (ESD)
- Lecture 9 - Example for Auto-Correlation of Signal and Energy Spectral Density (ESD)
- Lecture 10 - Introduction to Amplitude Modulation (AM), Modulation Index, Envelope Distortion and Over Modula
- Lecture 11 - Spectrum of Amplitude Modulated(AM) Signals and Introduction to Envelope Detection
- Lecture 12 - Envelope Detection for Amplitude Modulated (AM) Signals and Time Constant for Capacitor in Envel
- Lecture 13 - Power of Amplitude Modulated (AM) Signals and Power Efficiency of AM Signals
- Lecture 14 - Double Sideband (DSB) Suppressed Carrier (SC) Modulation, Spectrum of DSB-SC Signals and Coheren
- Lecture 15 - Double Sideband(DSB) Suppressed Carrier (SC) Demodulation, Non-coherent demodulation, Impact of
- Lecture 16 - Carrier Phase Offset Example for Double Sideband (DSB) Suppressed Carrier (SC) Demodulation- Wir
- Lecture 17 - Phase Synchronization using Costas Receiver for Double Sideband (DSB) Suppressed Carrier (SC) De
- Lecture 18 - Introduction to Quadrature Carrier Multiplexing (QCM) and Demodulation of QCM Signals.
- Lecture 19 - Introduction to Single Sideband (SSB) Modulation
- Lecture 20 - Generation of Single Sideband (SSB) Modulation Signals through Frequency Discrimination
- Lecture 21 - Frequency Domain Description of Hilbert Transform \hat{A} Fourier Spectrum of the Hilbert Transformer
- Lecture 22 - Time Domain Description of Hilbert Transform \hat{A} Impulse Response of the Hilbert Transformer
- Lecture 23 - Phase Shifting Method for Generation of Single Sideband (SSB) Modulated Signals based on Hilbert
- Lecture 24 - Complex Pre-Envelope and Complex Envelope of Passband Signals
- Lecture 25 - Complex Pre- Envelope and Complex Envelope of QCM (Quadrature Carrier Modulated) Signals
- Lecture 26 - Introduction to Vestigial Side Band(VSB) Modulation and Non- Ideal Filtering, Spectral Efficiency
- Lecture 27 - Properties of Vestigial Side Band Filter for Reconstruction of Message Signal without Distortion
- Lecture 28 - Introduction to Angle Modulation, Description of Phase Modulation (PM) and Frequency Modulation
- Lecture 29 - Frequency Modulation (FM) with Sinusoidal Modulation Signal and Pictorial Examples, Insights of

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

www.digimat.in

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

- Lecture 30 - Indirect Method for Generation of FM Signals - Generation of Narrowband FM Signal
- Lecture 31 - Indirect Method for Generation of FM Signals - Generation of Wideband FM Signal through Frequency Modulation
- Lecture 32 - Spectrum of Frequency Modulated (FM) Signals
- Lecture 33 - Bandwidth of Frequency Modulated (FM) Signals - Carson's Rule
- Lecture 34 - Demodulation of Frequency Modulated (FM) Signals, Condition of Envelope Detection
- Lecture 35 - Analog to Digital Conversion of Signals and Introduction to Sampling
- Lecture 36 - Spectrum of Sampled Signal, Aliasing and Nyquist Sampling Theorem
- Lecture 37 - Ideal Impulse Train Sampling, Reconstruction of Original Signal from Samples, Sinc Interpolation
- Lecture 38 - Introduction to Pulse Amplitude Modulation (PAM), Sample and Hold, Flat Top Sampling
- Lecture 39 - Pulse Amplitude Modulation (PAM), Spectrum of PAM Signal, Reconstruction of Original Signal from Samples
- Lecture 40 - Introduction to Quantization, Uniform Quantizer, Mid-Tread Quantizer
- Lecture 41 - Quantization, Mid-Rise Quantizer, PDF and Power of Quantization Noise, Quantization Noise Power
- Lecture 42 - Introduction to Lloyd-Max Quantization Algorithm, Optimal Quantizer Design
- Lecture 43 - Lloyd-Max Quantization Algorithm, Iterative Computation of Optimal Quantization Levels and Intervals
- Lecture 44 - Companding for Non-Uniform Quantization, μ -law Compressor, A-law Compressor
- Lecture 45 - Introduction to Delta Modulation, One-bit Quantizer
- Lecture 46 - Signal Reconstruction in Delta Modulation, Schematic Diagrams, Slope Overload Distortion and Granular Noise
- Lecture 47 - Differential Pulse Coded Modulation (DPCM), DPCM Signal Reconstruction and Schematic Diagram
- Lecture 48 - Frequency Mixing and Translation in Communication Systems, Heterodyne and Super Heterodyne Receivers
- Lecture 49 - Frequency Translation and Super Heterodyne Receivers, Problem of Image Frequency
- Lecture 50 - Frequency Division Multiplexing (FDM), Carrier Spacing in FDM
- Lecture 51 - Time Division Multiplexing (TDM), Operation of TDM, Sample Spacing in TDM
- Lecture 52 - Bandwidth Requirements for Time Division Multiplexing (TDM), The T1 TDM System

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

NPTEL Video Course - Electrical Engineering - NOC:An Introduction to Coding Theory

Subject Co-ordinator - Dr. Adrish Banerjee

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Introduction to Error Control Coding - I
Lecture 2 - Introduction to Error Control Coding - II
Lecture 3 - Introduction to Error Control Coding - III
Lecture 4 - Introduction to Linear Block Codes, Generator Matrix and Parity Check Matrix
Lecture 5 - Syndrome, Error Correction and Error Detection
Lecture 6 - Problem Solving Session - I
Lecture 7 - Decoding of Linear Block Codes
Lecture 8 - Distance Properties of Linear Block Codes - I
Lecture 9 - Distance Properties of Linear Block Codes - II
Lecture 10 - Problem Solving Session - II
Lecture 11 - Some Simple Linear Block Codes - I
Lecture 12 - Some Simple Linear Block Codes - II
Lecture 13 - Bounds on the Size of a Code
Lecture 14 - Problem Solving Session - III
Lecture 15 - Introduction to Convolutional Codes - I
Lecture 16 - Introduction to Convolutional Codes - II
Lecture 17 - Convolutional Codes
Lecture 18 - Convolutional Codes
Lecture 19 - Decoding of Convolutional Codes - I
Lecture 20 - Decoding of Convolutional Codes - II
Lecture 21 - Problem solving session - IV
Lecture 22 - Problem solving session - V
Lecture 23 - Performance Bounds for Convolutional Codes
Lecture 24 - Low Density Parity Check Codes
Lecture 25 - Decoding of Low Density Parity Check Codes - I
Lecture 26 - Decoding of Low Density Parity Check Codes - II
Lecture 27 - Turbo Codes
Lecture 28 - Turbo Decoding
Lecture 29 - Problem Solving Sessions - VI

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

www.digimat.in

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

- Lecture 30 - Distance Properties of Turbo Codes
- Lecture 31 - Convergence of Turbo Codes
- Lecture 32 - Automatic Repeat reQuest (ARQ) Schemes
- Lecture 33 - Applications of Linear Codes

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

NPTEL Video Course - Electrical Engineering - NOC:Principles of Communication Systems - Part II

Subject Co-ordinator - Prof. Aditya K. Jagannatham

Co-ordinating Institute - IIT - Kanpur

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

- Lecture 1 - Introduction to Digital Communication Systems
- Lecture 2 - Spectrum of Transmitted Digital Communication Signal and Wide Sense Stationarity
- Lecture 3 - Spectrum of Transmitted Digital Communication Signal, Autocorrelation Function and Power Spectral Density
- Lecture 4 - Spectrum of Transmitted Digital Communication Signal, Relation to Energy Spectral Density and Intensity
- Lecture 5 - Additive White Gaussian Noise (AWGN) Properties, Gaussian Noise and White Noise
- Lecture 6 - Structure of Digital Communication Receiver, Receiver Filter and Signal-to-Noise Power Ratio (SNR)
- Lecture 7 - Digital Communication Receiver, Noise Properties and Output Noise Power
- Lecture 8 - Digital Communication Receiver, Optimal SNR and Matched Filter
- Lecture 9 - Probability of Error in Digital Communication and Probability Density Functions of Output
- Lecture 10 - Probability of Error in Digital Communication, Optimal Decision Rule and Gaussian Q function
- Lecture 11 - Introduction to Binary Phase Shift Keying (BPSK) Modulation, Optimal Decision Rule and Probability of Error
- Lecture 12 - Introduction to Amplitude Shift Keying (ASK) Modulation
- Lecture 13 - Optimal Decision Rule for Amplitude Shift Keying (ASK), Bit Error Rate (BER) and Comparison with BPSK
- Lecture 14 - Introduction to Signal Space Concept and Orthonormal Basis Signals
- Lecture 15 - Introduction to Frequency Shift Keying (FSK)
- Lecture 16 - Optimal Decision Rule for FSK, Bit Error Rate (BER) and Comparison with BPSK, ASK
- Lecture 17 - Introduction to Quadrature Phase Shift Keying (QPSK)
- Lecture 18 - Waveforms of Quadrature Phase Shift Keying (QPSK)
- Lecture 19 - Matched Filtering, Bit Error Rate and Symbol Error Rate for Quadrature Phase Shift Keying (QPSK)
- Lecture 20 - Introduction to M-ary PAM (Pulse Amplitude Modulation), Average Symbol Power and Decision rules
- Lecture 21 - M-ary PAM (Pulse Amplitude Modulation) -Part-II, Optimal Decision Rule and Probability of Error
- Lecture 22 - M-ary QAM (Quadrature Amplitude Modulation) Part-I, Introduction, Transmitted Waveform and Average Symbol Power
- Lecture 23 - M-ary QAM (Quadrature Amplitude Modulation) - Part-II, Optimal Decision Rule, Probability of Error
- Lecture 24 - M-ary PSK (Phase Shift Keying) Part-I, Introduction, Transmitted Waveform and Constellation Diagram
- Lecture 25 - M-ary PSK (Phase Shift Keying) - Part-II, Optimal Decision Rule, Nearest Neighbor Criterion and Probability of Error
- Lecture 26 - Introduction to Information Theory, Relevance of Information Theory and Characterization of Information
- Lecture 27 - Definition of Entropy, Average of Information / Uncertainty of source and Properties of Entropy
- Lecture 28 - Entropy Example- Binary Source Maximum and Minimum Entropy of Binary Source
- Lecture 29 - Maximum Entropy of Source with M-ary Alphabet, Concave/Convex Functions and Jensens Inequality

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

www.digimat.in

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

- Lecture 30 - Joint Entropy , Definition of Joint Entropy of Two Sources and Simple Examples for Joint Entropy
- Lecture 31 - Properties of Joint Entropy and Relation between Joint Entropy and Marginal Entropies
- Lecture 32 - Conditional Entropy, Example of Conditional Entropy and Properties of Conditional Entropy
- Lecture 33 - Mutual Information, Diagrammatic Representation and Properties of Mutual Information
- Lecture 34 - Simple Example of Mutual Information and Practical Example of Mutual Information-Binary Symmetric
- Lecture 35 - Channel Capacity, Implications of Channel Capacity, Claude E. Shannon- Father of Information Theory
- Lecture 36 - Differential Entropy and Example for Uniform Probability Density function
- Lecture 37 - Differential Entropy of Gaussian Source and Insights
- Lecture 38 - Joint Conditional/ Differential Entropies and Mutual Information
- Lecture 39 - Capacity of Gaussian channel - Part I
- Lecture 40 - Capacity of Gaussian Channel - Part-II, Practical Implications and Maximum rate in bits/sec
- Lecture 41 - Introduction to Source Coding and Data Compression, Variable Length codes and Unique Decodability
- Lecture 42 - Uniquely Decodable Codes, Prefix-free code, Instantaneous Code and Average Code length
- Lecture 43 - Binary Tree Representation of Code, Example and Kraft Inequality
- Lecture 44 - Lower Bound on Average Code Length and Kullback-Leibler Divergence
- Lecture 45 - Optimal Code length, Constrained Optimization and Morse Code Example
- Lecture 46 - Approaching Lower Bound on Average code length and Block Coding
- Lecture 47 - Huffman Code, Algorithm, Example and Average Code Length
- Lecture 48 - Introduction to channel coding, Rate of Code, Repetition Code and Hamming Distance
- Lecture 49 - Introduction to Convolutional Codes, Binary Field Arithmetic and Linear Codes
- Lecture 50 - Example of Convolutional Code Output and Convolution Operation for Code generation
- Lecture 51 - Matrix Representation of Convolutional Codes, Generator Matrix, Transform Domain Representation
- Lecture 52 - State Diagram Representation of Convolutional Code, State transitions and Example of Code Generation
- Lecture 53 - Trellis Representation of Convolutional Code and Valid Code Words
- Lecture 54 - Decoding of the Convolutional Code, Minimum Hamming distance and Maximum Likelihood Codeword Estimation
- Lecture 55 - Principle of Decoding of Convolutional code
- Lecture 56 - Viterbi Decoder for Maximum Likelihood Decoding of Convolutional Code Using Trellis Representation

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

NPTEL Video Course - Electrical Engineering - NOC:Applied Engineering Electromagnetics

Subject Co-ordinator - Dr. Pradeep Kumar K

Co-ordinating Institute - IIT - Kanpur

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

- Lecture 1 - Introduction to Applied Electromagnetics
- Lecture 2 - Introduction to Transmission lines
- Lecture 3 - Sinusoidal waves on Transmission lines
- Lecture 4 - Terminating T-lines
- Lecture 5 - Circuit parameters of a T-line
- Lecture 6 - Lossy Transmission lines and primary constants
- Lecture 7 - When to apply T-line Theory?
- Lecture 8 - Standing Waves on T-lines
- Lecture 9 - Lumped equivalent circuits of T-lines
- Lecture 10 - Impedance transformation and power flow on T-lines
- Lecture 11 - Graphical aid
- Lecture 12 - Smith chart applications
- Lecture 13 - Further applications of Smith chart - Part 1
- Lecture 14 - Further applications of Smith chart - Part 2
- Lecture 15 - Impedance matching techniques - Part 1
- Lecture 16 - Impedance matching techniques - Part 2
- Lecture 17 - Impedance matching techniques - Part 3
- Lecture 18 - T-lines in time domain
- Lecture 19 - Further examples of use of lattice diagrams
- Lecture 20 - High-speed digital signal propagation on T-lines
- Lecture 21 - Transient analysis with reactive termination and Time-domain reflectometry
- Lecture 22 - Fault detection using TDR
- Lecture 23 - Why Electromagnetics?
- Lecture 24 - Rectangular coordinate systems
- Lecture 25 - Cylindrical coordinate systems
- Lecture 26 - Review of vector fields and Gradient
- Lecture 27 - Divergence, Curl, and Laplacian operations
- Lecture 28 - Towards Maxwells equations - Part 1
- Lecture 29 - Towards Maxwells equations - Part 2

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

www.digimat.in

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

- Lecture 30 - Faradays law
- Lecture 31 - Completing Maxwells equations and Boundary conditions
- Lecture 32 - Boundary conditions for Electromagnetic fields
- Lecture 33 - Electrostatics-I
- Lecture 34 - Electrostatics-II
- Lecture 35 - Electrostatics-III
- Lecture 36 - Electrostatics-IV
- Lecture 37 - Magnetostatic fields-I
- Lecture 38 - Magnetostatic fields-II
- Lecture 39 - Inductance calculations
- Lecture 40 - From Maxwells equations to uniform plane waves
- Lecture 41 - Plane wave propagation in lossless dielectric media
- Lecture 42 - Polarization of plane waves
- Lecture 43 - Can an Ideal capacitor exist?
- Lecture 44 - Skin effect in conductors
- Lecture 45 - Skin effect in round wires
- Lecture 46 - Finite difference method
- Lecture 47 - Reflection of uniform plane waves
- Lecture 48 - Application
- Lecture 49 - Oblique incidence of plane waves
- Lecture 50 - Total internal reflection
- Lecture 51 - Application
- Lecture 52 - Application
- Lecture 53 - Introduction to waveguides
- Lecture 54 - Rectangular waveguides
- Lecture 55 - Attenuation and Dispersion in rectangular waveguides
- Lecture 56 - Planar optical waveguides
- Lecture 57 - Application
- Lecture 58 - Application
- Lecture 59 - Mach-Zehnder Modulator
- Lecture 60 - Wave Propagation in Anisotropic Medium
- Lecture 61 - Wave Propagation in Ferrites
- Lecture 62 - Magnetic Vector Potential - Part 1
- Lecture 63 - Magnetic Vector Potential - Part 2
- Lecture 64 - Fields of a Dipole Antenna
- Lecture 65 - Antenna Parameters and Long wire Antenna
- Lecture 66 - Friis Transmission Formula

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

NPTEL Video Course - Electrical Engineering - NOC:Principles of Signals and Systems

Subject Co-ordinator - Prof. Aditya K. Jagannatham

Co-ordinating Institute - IIT - Kanpur

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

- Lecture 1 - Principles of Signals and Systems- Introduction to Signals and Systems, Signal Classification - C
- Lecture 2 - Analog and Digital Signals
- Lecture 3 - Energy and Power Signals
- Lecture 4 - Real Exponential Signals
- Lecture 5 - Memory/Memory-less and Causal/Non-Causal Systems
- Lecture 6 - Properties of Linear Systems
- Lecture 7 - Example Problems - 1
- Lecture 8 - Example Problems - 2
- Lecture 9 - Example Problems - 3
- Lecture 10 - Properties and Analysis of LTI Systems - I
- Lecture 11 - Properties and Analysis of LTI Systems - II
- Lecture 12 - Properties and Analysis of LTI Systems - III
- Lecture 13 - Properties of Discrete Time LTI Systems
- Lecture 14 - Example Problems LTI Systems - I
- Lecture 15 - Example Problems LTI Systems - II
- Lecture 16 - Example Problems DT-LTI Systems
- Lecture 17 - Laplace Transform
- Lecture 18 - Laplace Transform Properties - I
- Lecture 19 - Laplace Transform Properties - II
- Lecture 20 - Laplace Transform of LTI Systems
- Lecture 21 - Laplace Transform Example Problems - I
- Lecture 22 - Laplace Transform Example Problems - II
- Lecture 23 - Laplace Transform of RL, RC Circuit
- Lecture 24 - Z-Transform
- Lecture 25 - Z-Transform Properties - I
- Lecture 26 - Z-Transform Properties - II
- Lecture 27 - Z-Transform of LTI Systems
- Lecture 28 - Z-Transform Examples - I
- Lecture 29 - Z-Transform Examples - II

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

www.digimat.in

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

- Lecture 30 - Z-Transform Examples - III
- Lecture 31 - Z-Transform Examples - IV
- Lecture 32 - Inverse Z-Transform
- Lecture 33 - Fourier Analysis Introduction
- Lecture 34 - Complex Exponential and Trigonometric FS
- Lecture 35 - Conditions for Existence of FS
- Lecture 36 - Fourier Transform (FT) Introduction
- Lecture 37 - Properties of Fourier Transform - I
- Lecture 38 - Properties of Fourier Transform - II
- Lecture 39 - Fourier Transform - Parseval's Relation
- Lecture 40 - Fourier Transform of LTI Systems
- Lecture 41 - FT- Ideal and Non-Ideal Filters
- Lecture 42 - Fourier Analysis Examples - I
- Lecture 43 - Fourier Analysis Examples - II
- Lecture 44 - Fourier Analysis Examples - III
- Lecture 45 - Fourier Analysis Examples - IV
- Lecture 46 - Fourier Analysis Examples - V
- Lecture 47 - Fourier Analysis Examples - VI
- Lecture 48 - Fourier Analysis Bode Plot - I
- Lecture 49 - Fourier Analysis Bode Plot - II
- Lecture 50 - Fourier Transform Examples
- Lecture 51 - Fourier Transform Problems
- Lecture 52 - Sampling
- Lecture 53 - Sampling
- Lecture 54 - Fourier Analysis of Discrete Time Signals and Systems - Introduction
- Lecture 55 - Fourier Analysis of Discrete Time Signals - Duality, Parseval's Theorem
- Lecture 56 - Discrete Time Fourier Transform
- Lecture 57 - Discrete Time Fourier Transform
- Lecture 58 - Discrete Time Fourier Transform
- Lecture 59 - DTFT
- Lecture 60 - Discrete Fourier Transform - Definition, Inverse DFT, Relation between DFT and DFS, Relation bet
- Lecture 61 - Discrete Fourier Transform
- Lecture 62 - Example Problems
- Lecture 63 - Example Problems
- Lecture 64 - DTFT Example Problems - III
- Lecture 65 - DTFT Example Problems - IV
- Lecture 66 - DTFT Example Problems - V
- Lecture 67 - DFT Example Problems - I
- Lecture 68 - Example Problems

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

www.digimat.in

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

- Lecture 69 - Group/Phase Delay - Part I
- Lecture 70 - Group/Phase Delay - Part II
- Lecture 71 - IIR Filter Structures
- Lecture 72 - IIR Filter Structures
- Lecture 73 - IIR Filter Structures
- Lecture 74 - IIR Filter Structures
- Lecture 75 - IIR Filter

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

NPTEL Video Course - Electrical Engineering - NOC:Applied Optimization for Wireless, Machine Learning, Big Data

Subject Co-ordinator - Prof. Aditya K. Jagannatham

Co-ordinating Institute - IIT - Kanpur

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

- Lecture 1 - Vectors and Matrices - Linear Independence and Rank
- Lecture 2 - Eigenvectors and Eigenvalues of Matrices and their Properties
- Lecture 3 - Positive Semidefinite (PSD) and Positive Definite (PD) Matrices and their Properties
- Lecture 4 - Inner Product Space and its Properties
- Lecture 5 - Inner Product Space and its Properties
- Lecture 6 - Properties of Norm, Gaussian Elimination and Echelon form of matrix
- Lecture 7 - Gram Schmidt Orthogonalization Procedure
- Lecture 8 - Null Space and Trace of Matrices
- Lecture 9 - Eigenvalue Decomposition of Hermitian Matrices and Properties
- Lecture 10 - Matrix Inversion Lemma (Woodbury identity)
- Lecture 11 - Introduction to Convex Sets and Properties
- Lecture 12 - Affine Set Examples and Application
- Lecture 13 - Norm Ball and its Practical Applications
- Lecture 14 - Ellipsoid and its Practical Applications
- Lecture 15 - Norm Cone, Polyhedron and its Applications
- Lecture 16 - Applications
- Lecture 17 - Positive Semi Definite Cone And Positive Semi Definite (PSD) Matrices
- Lecture 18 - Introduction to Affine functions and examples
- Lecture 19 - norm balls and Matrix properties
- Lecture 20 - Inverse of a Positive Definite Matrix
- Lecture 21 - Example Problems
- Lecture 22 - Problems on Convex Sets (Continued...)
- Lecture 23 - Introduction to Convex and Concave Functions
- Lecture 24 - Properties of Convex Functions with examples
- Lecture 25 - Test for Convexity
- Lecture 26 - Application
- Lecture 27 - Jensen's Inequality and Practical Application
- Lecture 28 - Jensen's Inequality application
- Lecture 29 - Properties of Convex Functions

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

www.digimat.in

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

- Lecture 30 - Conjugate Function and Examples to prove Convexity of various Functions
- Lecture 31 - Examples on Operations Preserving Convexity
- Lecture 32 - Examples on Test for Convexity, Quasi-Convexity
- Lecture 33 - Examples on Convex Functions
- Lecture 34 - Practical Application
- Lecture 35 - Practical Application
- Lecture 36 - Practical Application
- Lecture 37 - Practical Application
- Lecture 38 - Practical Application
- Lecture 39 - Practical Application
- Lecture 40 - Practical Application
- Lecture 41 - Linear modeling and Approximation Problems
- Lecture 42 - Geometric Intuition for Least Squares
- Lecture 43 - Practical Application
- Lecture 44 - Practical Application
- Lecture 45 - Least Norm Signal Estimation
- Lecture 46 - Regularization
- Lecture 47 - Convex Optimization Problem representation
- Lecture 48 - Linear Program Practical Application
- Lecture 49 - Stochastic Linear Program, Gaussian Uncertainty
- Lecture 50 - Practical Application
- Lecture 51 - Practical Application
- Lecture 52 - Practical Application
- Lecture 53 - Practical Application
- Lecture 54 - Practical Application
- Lecture 55 - Practical Application
- Lecture 56 - Practical Application
- Lecture 57 - Practical Application- Orthogonal Matching Pursuit (OMP) algorithm for Compressive Sensing
- Lecture 58 - Example Problem
- Lecture 59 - Practical Application
- Lecture 60 - Practical Application of Machine Learning and Artificial Intelligence
- Lecture 61 - Practical Application
- Lecture 62 - Practical Application
- Lecture 63 - Concept of Duality
- Lecture 64 - Relation between optimal value of Primal and Dual Problems, concepts of Duality gap and Strong D
- Lecture 65 - Example problem on Strong Duality
- Lecture 66 - Karush-Kuhn-Tucker (KKT) conditions
- Lecture 67 - Application of KKT condition
- Lecture 68 - Optimal MIMO Power allocation (Waterfilling)-II

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

www.digimat.in

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

- Lecture 69 - Example problem on Optimal MIMO Power allocation (Waterfilling)
- Lecture 70 - Linear objective with box constraints, Linear Programming
- Lecture 71 - Example Problems II
- Lecture 72 - Examples on Quadratic Optimization
- Lecture 73 - Examples on Duality
- Lecture 74 - Examples on Duality
- Lecture 75 - Semi Definite Program (SDP) and its application
- Lecture 76 - Application
- Lecture 77 - Introduction to big Data
- Lecture 78 - Matrix Completion Problem in Big Data
- Lecture 79 - Matrix Completion Problem in Big Data

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

NPTEL Video Course - Electrical Engineering - NOC:Fiber-Optic Communication Systems and Techniques

Subject Co-ordinator - Dr. Pradeep Kumar K

Co-ordinating Institute - IIT - Kanpur

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

- Lecture 1 - Overview of fiber-optic communication systems
- Lecture 2 - Review of Maxwell's equations
- Lecture 3 - Uniform plane waves (UWPs) in free-space
- Lecture 4 - Properties of UWPs (propagation constant, polarization, and Poynting vector)
- Lecture 5 - Boundary conditions and reflection from a PEC
- Lecture 6 - Obliquely incident waves-I (TE and TM waves, Snell's laws)
- Lecture 7 - Obliquely incident waves-II (Reflection and transmission coefficients, Brewster angle)
- Lecture 8 - Total internal reflection
- Lecture 9 - Ray theory of dielectric slab waveguides
- Lecture 10 - Transverse resonance condition for slab waveguides
- Lecture 11 - Introduction to optical fibers
- Lecture 12 - Ray theory of light propagation in optical fibers
- Lecture 13 - Concept of waveguide modes
- Lecture 14 - Systematic procedure to obtain modes of a waveguide
- Lecture 15 - Systematic analysis of parallel plate metallic waveguide
- Lecture 16 - Systematic analysis of dielectric slab waveguides
- Lecture 17 - Further discussion on slab waveguides
- Lecture 18 - Modal analysis of step index optical fiber
- Lecture 19 - Properties of modes of step-index optical fiber - I
- Lecture 20 - Properties of modes of step-index optical fiber - II
- Lecture 21 - Linearly polarized modes
- Lecture 22 - Attenuation and power loss in fibers
- Lecture 23 - Introduction to dispersion in fibers
- Lecture 24 - Mathematical modelling of dispersion
- Lecture 25 - Pulse propagation equation and its solution
- Lecture 26 - Pre-chirped pulses and Inter and Intra-modal dispersion in optical fibers
- Lecture 27 - Beam Propagation Method
- Lecture 28 - Polarization Effects on Pulse Propagation
- Lecture 29 - Modes in Optical Fibres and Pulse Propagation in Optical Fibres

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

www.digimat.in

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

- Lecture 30 - Graded Index Fibers
- Lecture 31 - Light Sources, Detectors and Amplifiers
- Lecture 32 - Basics of Lasers-I (Structure of Lasers, Process of Photon Emission)
- Lecture 33 - Basics of Lasers-II (Einstein's Theory of Radiation)
- Lecture 34 - Basics of Lasers-III (Population Inversion and Rate Equation for Lasers)
- Lecture 35 - Basic Properties of Semiconductor Laser-I (Energy Gap, Intrinsic and Extrinsic Semiconductors)
- Lecture 36 - Basic Properties of Semiconductor Laser-II (Fermi Level)
- Lecture 37 - Optical Properties of Semiconductors-I (Direct Bandgap and Indirect Bandgap, Density of States)
- Lecture 38 - Optical Properties of Semiconductors-II (Gain, Absorption, Recombination rate) Homojunction Laser
- Lecture 39 - Double Heterostructure Lasers, Introduction to Quantum Well Lasers
- Lecture 40 - Semiconductor Optical Amplifier
- Lecture 41 - Erbium-doped fiber amplifier
- Lecture 42 - Photodetectors
- Lecture 43 - Noise in Photodetectors
- Lecture 44 - Introduction to WDM components
- Lecture 45 - Couplers, Circulators, FRM and Filters
- Lecture 46 - Filter, MUX/DEMUX, Diffraction grating (FBG and Long period grating)
- Lecture 47 - Optical Modulators-I (Current modulation)
- Lecture 48 - Optical Modulators-II (Electro-optic modulators)
- Lecture 49 - Review of Communication Concepts-I (Deterministic and Random Signals, Baseband and Passband Signals)
- Lecture 50 - Review of Communication Concepts-II (Signal and vectors, Signal energy, Orthonormal basis functions)
- Lecture 51 - Intensity modulation/ Direct Detection
- Lecture 52 - BER discussion for OOK systems
- Lecture 53 - Higher order modulation and Coherent Receiver
- Lecture 54 - Coherent receiver for BPSK systems and BER calculation
- Lecture 55 - Recovering Polarization
- Lecture 56 - DSP algorithms for Chromatic dispersion mitigation
- Lecture 57 - DSP algorithms for Carrier phase estimation - I
- Lecture 58 - DSP algorithms for Carrier phase estimation - II
- Lecture 59 - Nonlinear effects in fiber
- Lecture 60 - Four wave mixing, Loss measurement, Dispersion measurement
- Lecture 61 - Lab Demonstration (Laser diode characteristics, Loss measurement, Optical Intensity Modulation)

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

NPTEL Video Course - Electrical Engineering - Electrical Machines I

Subject Co-ordinator - Dr. D. Kastha

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Introduction
- Lecture 2 - Operating Principles and Construction of Single Phase Transformers
- Lecture 3 - Modeling of Single Phase Transformers
- Lecture 4 - Equivalent Circuits of Single Phase Transformers
- Lecture 5 - Testing of Single Phase Transformers
- Lecture 6 - Efficiency of Single Phase Transformers
- Lecture 7 - Voltage Regulation of Single Phase Transformers
- Lecture 8 - Parallel Operation of Single Phase Transformers
- Lecture 9 - Harmonics and Switching Transients in Single Phase Transformers
- Lecture 10 - Introduction to Three Phase Transformer
- Lecture 11 - Construction of Three Phase Transformers
- Lecture 12 - Three Phase Transformer Connections
- Lecture 13 - Three Phase Transformer Phase Groups Part - I
- Lecture 14 - Three Phase Transformer Phase Groups Part - II
- Lecture 15 - Analysis and Testing of Three Phase Transformers
- Lecture 16 - Operation of Three Phase Transformers
- Lecture 17 - Auto Transformers
- Lecture 18 - Three Winding Transformers
- Lecture 19 - Scott Connected Transformers
- Lecture 20 - Potential and Current Transformers
- Lecture 21 - Operating Principles of DC Machines
- Lecture 22 - Constructional Features of DC Machines
- Lecture 23 - Generated EMF and Torque in DC Machines
- Lecture 24 - Armature Reaction
- Lecture 25 - Commutation in DC Machines
- Lecture 26 - Separately Excited DC Generators
- Lecture 27 - DC Shunt Generators
- Lecture 28 - Compound DC Generators
- Lecture 29 - Interconnected DC Generators

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

www.digimat.in

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

- Lecture 30 - Characteristics of DC Shunt Motors
- Lecture 31 - Starting of DC Shunt Motors
- Lecture 32 - Speed Control of DC Shunt Motors
- Lecture 33 - Braking of DC Shunt Motors
- Lecture 34 - Electronic Control of DC Shunt Motors
- Lecture 35 - Testing of DC Shunt Motors
- Lecture 36 - Characteristics of DC Series Motors
- Lecture 37 - Starting and Braking of DC Series Motors
- Lecture 38 - Speed Control and of DC Series Motors
- Lecture 39 - Testing of DC Series Motors
- Lecture 40 - Characteristics of Compound DC Series Motors

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

NPTEL Video Course - Electrical Engineering - Optimal Control

Subject Co-ordinator - Prof. G.D. Ray

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Introduction to Optimization Problem
- Lecture 2 - Introduction to Optimization Problem
- Lecture 3 - Optimality Conditions for Function of Several Variables
- Lecture 4 - Optimality Conditions for Function of Several Variables (Continued.)
- Lecture 5 - Unconstrained Optimization Problem (Numerical Techniques)
- Lecture 6 - Solution of Unconstrained Optimization Problem Using Conjugate Gradient Method and Networks Method
- Lecture 7 - Solution of Unconstrained Optimization Problem Using Conjugate Gradient Method and Networks Method
- Lecture 8 - Solution of Constraint Optimization Problem-Karush-Kuhn Tucker (KKT) Conditions
- Lecture 9 - Solution of Constraint Optimization Problem-Karush-Kuhn Tucker (KKT) Conditions (Continued.)
- Lecture 10 - Problem and Solution Session
- Lecture 11 - Post Optimality Analysis, Convex Function and its Properties
- Lecture 12 - Post Optimality Analysis, Convex Function and its Properties (Continued.)
- Lecture 13 - Quadratic Optimization Problem Using Linear Programming
- Lecture 14 - Matrix form of the Simplex Method
- Lecture 15 - Matrix form of the Simplex Method (Continued.)
- Lecture 16 - Solution of Linear Programming Using Simplex Method
- Lecture 17 - Solution of Linear Programming Using Simplex Method
- Lecture 18 - Solution of LP Problems with Two Phase Method
- Lecture 19 - Solution of LP Problems with Two Phase Method (Continued.)
- Lecture 20 - Standard Primal and Dual Problems
- Lecture 21 - Relationship Between Primal and Dual Variables
- Lecture 22 - Solution of Quadratic Programming Problem Using Simplex Method
- Lecture 23 - Interior Point Method for Solving Optimization Problems
- Lecture 24 - Interior Point Method for Solving Optimization Problems (Continued.)
- Lecture 25 - Solution of Nonlinear Programming Problem Using Exterior Penalty Function Method
- Lecture 26 - Solution of Nonlinear Programming Problem Using Exterior Penalty Function Method (Continued.)
- Lecture 27 - Solution of Nonlinear Programming Problem Using Interior Penalty Function Method
- Lecture 28 - Solution of Nonlinear Programming Problem Using Interior Penalty Function Method (Continued.)
- Lecture 29 - Multiobjective Optimization Problem

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

www.digimat.in

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

- Lecture 30 - Dynamic Optimization Problem
- Lecture 31 - Dynamic Optimization Problem
- Lecture 32 - Dynamic Optimization Problem
- Lecture 33 - Numerical Example and Solution of Optimal Control Problem using Calculus of Variation principle
- Lecture 34 - Numerical Example and Solution of Optimal Control Problem using Calculus of Variation principle
- Lecture 35 - Hamiltonian Formulation for solution of optimal Control problem and numerical example
- Lecture 36 - Hamiltonian Formulation for solution of optimal Control problem and numerical example (Continued)
- Lecture 37 - Performance Indices and Linear Quadratic Regulator Problem
- Lecture 38 - Performance Indices and Linear Quadratic Regulator Problem (Continued.)
- Lecture 39 - Solution and Stability Analysis of Finite - time LQR Problem
- Lecture 40 - Solution and Infinite - time LQR Problem and Stability Analysis
- Lecture 41 - Numerical Example and Methods for Solution of A.R.E.
- Lecture 42 - Numerical Example and Methods for Solution of A.R.E. (Continued.)
- Lecture 43 - Frequency Domain Interpretation of LQR Controlled System
- Lecture 44 - Gain and Phase Margin of LQR Controlled System
- Lecture 45 - The Linear Quadratic Gaussian Problem
- Lecture 46 - Loop-Transfer Recovery
- Lecture 47 - Dynamic Programming for Discrete Time Systems
- Lecture 48 - Minimum \hat{a} Time Control of a Linear Time Invariant System
- Lecture 49 - Solution of Minimum \hat{a} Time Control Problem with an Example
- Lecture 50 - Constraint in Control Inputs and State Variables
- Lecture 51 - Constraint in Control Inputs and State Variables (Continued...)
- Lecture 52 - Norms for Vectors, Matrices, Signals and Linear Systems
- Lecture 53 - Signal and System Norms
- Lecture 54 - Internal Stability, Sensitivity and Complementary Sensitivity Functions
- Lecture 55 - Internal Stability, Sensitivity and Complementary Sensitivity Functions (Continued...)
- Lecture 56 - Plant Uncertainty and Standard form for Robust Stability Analysis
- Lecture 57 - Plant Uncertainty and Standard form for Robust Stability Analysis (Continued...)
- Lecture 58 - Frequency Response of Linear System and Singular Value Decomposition of System
- Lecture 59 - Control Problem Statement in H- α Framework
- Lecture 60 - Control Problem Statement in H - α Framework (Continued...)

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

NPTEL Video Course - Electrical Engineering - Chaos, Fractals and Dynamic Systems

Subject Co-ordinator - Prof. S. Banerjee

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Representations of Dynamical Systems
- Lecture 2 - Vector Fields of Nonlinear Systems
- Lecture 3 - Limit Cycles
- Lecture 4 - The Lorenz Equation - I
- Lecture 5 - The Lorenz Equation - II
- Lecture 6 - The Rossler Equation and Forced Pendulum
- Lecture 7 - The Chua's Circuit
- Lecture 8 - Discrete Time Dynamical Systems
- Lecture 9 - The Logistic Map and Period doubling
- Lecture 10 - Flip and Tangent Bifurcations
- Lecture 11 - Intermittency Transcritical and pitchfork
- Lecture 12 - Two Dimensional Maps
- Lecture 13 - Bifurcations in Two Dimensional Maps
- Lecture 14 - Introduction to Fractals
- Lecture 15 - Mandelbrot Sets and Julia Sets
- Lecture 16 - The Space Where Fractals Live
- Lecture 17 - Interactive Function Systems
- Lecture 18 - IFS Algorithms
- Lecture 19 - Fractal Image Compression
- Lecture 20 - Stable and Unstable Manifolds
- Lecture 21 - Boundary Crisis and Interior Crisis
- Lecture 22 - Statistics of Chaotic Attractors
- Lecture 23 - Matrix Times Circle
- Lecture 24 - Lyapunov Exponent
- Lecture 25 - Frequency Spectra of Orbits
- Lecture 26 - Dynamics on a Torus
- Lecture 27 - Dynamics on a Torus
- Lecture 28 - Analysis of Chaotic Time Series
- Lecture 29 - Analysis of Chaotic Time Series

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

www.digimat.in

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

- Lecture 30 - Lyapunou Function and Centre Manifold Theory
- Lecture 31 - Non-Smooth Bifurcations
- Lecture 32 - Non-Smooth Bifurcations
- Lecture 33 - Normal form for Piecewise Smooth 2D Maps
- Lecture 34 - Bifurcations in Piecewise Linear 2D Maps
- Lecture 35 - Bifurcations in Piecewise Linear 2D Maps
- Lecture 36 - Multiple Attractor Bifurcation and Dangerous
- Lecture 37 - Dynamics of Discontinuous Maps
- Lecture 38 - Introduction to Floquet Theory
- Lecture 39 - The Monodromy Matrix and the Saltation Matrix
- Lecture 40 - Control of Chaos

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

NPTEL Video Course - Electrical Engineering - Digital Signal Processing

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

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Discrete Time Signal and System
Lecture 2 - Discrete Time Signal and System (Continued...)
Lecture 3 - Discrete Time Signal and System (Continued...)
Lecture 4 - Frequency Domain Representation of Discrete Signals
Lecture 5 - Z-Transform
Lecture 6 - Z-Transform (Continued...)
Lecture 7 - Solution of Difference Equation
Lecture 8 - Tutorial on Discrete Time Signals & Their Transforms
Lecture 9 - Relation Between Discrete Time and Continuous Signals
Lecture 10 - Discrete Fourier Transform (DFT)
Lecture 11 - Discrete Fourier Transform (DFT) (Continued...)
Lecture 12 - Discrete Fourier Transform (DFT) (Continued...)
Lecture 13 - State Space Representation
Lecture 14 - Filters Introduction
Lecture 15 - FIR Filters
Lecture 16 - FIR Filters (Continued...) Introduction to IIR Filters
Lecture 17 - IIR Filters (Continued...)
Lecture 18 - IIR Filters (Continued...)
Lecture 19 - IIR Filters (Continued...)
Lecture 20 - Tutorial & Introduction to Computer Aided Design of Filters
Lecture 21 - Computer Aided Design of Filters
Lecture 22 - FFT and Computer Aided Design of Filters
Lecture 23 - Introduction to Lattice Filter
Lecture 24 - Lattice Filter (Continued...)
Lecture 25 - Effects of Quantization
Lecture 26 - Effects of Quantization (Continued...)
Lecture 27 - Effects of Quantization (Continued...)
Lecture 28 - Effects of Quantization (Continued...)
Lecture 29 - Random Signals

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

www.digimat.in

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

- Lecture 30 - Relationship Between Real and Imaginary Parts of DTFT
- Lecture 31 - Relationship Between Real and Imaginary Parts of DTFT
- Lecture 32 - Relationship Between Real and Imaginary Parts of DTFT
- Lecture 33 - Multi rate Signal Processing
- Lecture 34 - Multi rate Signal Processing (Continued...)
- Lecture 35 - Polyphase Decomposition

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

NPTEL Video Course - Electrical Engineering - Dynamics of Physical Systems

Subject Co-ordinator - Prof. S. Banerjee

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Introduction to System Elements
- Lecture 2 - Newton's Method and Constraints
- Lecture 3 - Derivation of the Lagrangian Equation
- Lecture 4 - Using the lagrangian Equation to Obtain Differential Equations (Part-I)
- Lecture 5 - Using the lagrangian Equation to Obtain Differential Equations (Part-II)
- Lecture 6 - Using the lagrangian Equation to Obtain Differential Equations (Part-III)
- Lecture 7 - Using the lagrangian Equation to Obtain Differential Equations (Part-IV)
- Lecture 8 - Obtaining First Order Equations
- Lecture 9 - Application of the Hamiltonian Method
- Lecture 10 - Obtaining Differential Equations Using Kirchoff's Laws
- Lecture 11 - The Graph Theory Approach for Electrical Circuits (Part-I)
- Lecture 12 - The Graph Theory Approach for Electrical Circuits (Part-II)
- Lecture 13 - The Bond Graph Approach - I
- Lecture 14 - The Bond Graph Approach - II
- Lecture 15 - The Bond Graph Approach - III
- Lecture 16 - The Bond Graph Approach - IV
- Lecture 17 - The Bond Graph Approach - V
- Lecture 18 - The Bond Graph Approach - VI
- Lecture 19 - The Bond Graph Approach - VII
- Lecture 20 - Numerical Solution of Differential Equations
- Lecture 21 - Dynamics in the State Space
- Lecture 22 - Vector Field Around Equilibrium Points - I
- Lecture 23 - Vector Field Around Equilibrium Points - II
- Lecture 24 - Vector Field Around Equilibrium Points - III
- Lecture 25 - Vector Field Around Equilibrium Points - IV
- Lecture 26 - High Dimensional Linear Systems
- Lecture 27 - Linear Systems with External Input - I
- Lecture 28 - Linear Systems with External Input - II
- Lecture 29 - Linear Systems with External Input - III

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

www.digimat.in

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

- Lecture 30 - Dynamics of Nonlinear Systems - I
- Lecture 31 - Dynamics of Nonlinear Systems - II
- Lecture 32 - Dynamics of Nonlinear Systems - III
- Lecture 33 - Discrete-Time Dynamical Systems - I
- Lecture 34 - Discrete-Time Dynamical Systems - II

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

NPTEL Video Course - Electrical Engineering - Energy Resources and Technology

Subject Co-ordinator - Prof. S. Banerjee

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Thermodynamics
- Lecture 2 - Quality of Energy
- Lecture 3 - Complete Cycle Analysis of Fossil Fuels
- Lecture 4 - Energy in Transportation
- Lecture 5 - Other Fossil Fuels
- Lecture 6 - Energy Economics
- Lecture 7 - Energy Economics
- Lecture 8 - Thermal Power Plants
- Lecture 9 - Thermal Power Plants
- Lecture 10 - Hydroelectric Power
- Lecture 11 - Hydroelectric Power
- Lecture 12 - Nuclear Power Generation
- Lecture 13 - Nuclear Fusion Reactors
- Lecture 14 - Environmental Effects of Conventional Power
- Lecture 15 - Solar Thermal Energy Conversion
- Lecture 16 - Solar Concentrating Collectors
- Lecture 17 - Photovoltaic Power Generation
- Lecture 18 - Photovoltaic Power Generation (Continued.)
- Lecture 19 - Photovoltaic Power Generation (Continued.)
- Lecture 20 - Photovoltaic Power Generation (Continued.)
- Lecture 21 - Wind Energy - I
- Lecture 22 - Wind Energy - II
- Lecture 23 - Wind Energy - III
- Lecture 24 - Wind Energy - IV
- Lecture 25 - Wind Energy - V
- Lecture 26 - Wind Energy - VI
- Lecture 27 - Wind Electrical Conversion - I
- Lecture 28 - Wind Electrical Conversion - II
- Lecture 29 - Wind Electrical Conversion - III

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

www.digimat.in

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

- Lecture 30 - Tidal Energy
- Lecture 31 - Tidal Energy
- Lecture 32 - Tidal Energy
- Lecture 33 - Ocean Thermal Energy Conversion
- Lecture 34 - Solar Pond and Wave Power
- Lecture 35 - Geothermal Energy
- Lecture 36 - Solar Distillation and Biomass Energy
- Lecture 37 - Energy Storage
- Lecture 38 - Magneto hydrodynamic Power Generation
- Lecture 39 - Magneto hydrodynamic Power Generation
- Lecture 40 - Hydrogen Economy

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

NPTEL Video Course - Electrical Engineering - Estimation of Signals and Systems

Subject Co-ordinator - Prof. S. Mukhopadhyay

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Introduction
- Lecture 2 - Probability Theory
- Lecture 3 - Random Variables
- Lecture 4 - Function of Random Variable Joint Density
- Lecture 5 - Mean and Variance
- Lecture 6 - Random Vectors Random Processes
- Lecture 7 - Random Processes and Linear Systems
- Lecture 8 - Some Numerical Problems
- Lecture 9 - Miscellaneous Topics on Random Process
- Lecture 10 - Linear Signal Models
- Lecture 11 - Linear Mean Sq. Error Estimation
- Lecture 12 - Auto Correlation and Power Spectrum Estimation
- Lecture 13 - Z-Transform Revisited Eigen Vectors/Values
- Lecture 14 - The Concept of Innovation
- Lecture 15 - Least Squares Estimation Optimal IIR Filters
- Lecture 16 - Introduction to Adaptive Filters
- Lecture 17 - State Estimation
- Lecture 18 - Kalman Filter-Model and Derivation
- Lecture 19 - Kalman Filter-Derivation (Continued...)
- Lecture 20 - Estimator Properties
- Lecture 21 - The Time-Invariant Kalman Filter
- Lecture 22 - Kalman Filter-Case Study
- Lecture 23 - System identification Introductory Concepts
- Lecture 24 - Linear Regression-Recursive Least Squares
- Lecture 25 - Variants of LSE
- Lecture 26 - Least Square Estimation
- Lecture 27 - Model Order Selection Residual Tests
- Lecture 28 - Practical Issues in Identification
- Lecture 29 - Estimation Problems in Instrumentation and Control

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

www.digimat.in

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

Lecture 30 - Conclusion

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

www.digimat.in

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

NPTEL Video Course - Electrical Engineering - Illumination Engineering

Subject Co-ordinator - Prof. N.K. Kishore

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Introduction to Illumination Engineering
- Lecture 2 - Instructional Objectives
- Lecture 3 - Eye and Vision - I
- Lecture 4 - Eye and Vision - II
- Lecture 5 - Laws of Illumination
- Lecture 6 - Photometry
- Lecture 7 - Incandescent Lamps
- Lecture 8 - Discharge Lamps - I
- Lecture 9 - Discharge Lamps - II
- Lecture 10 - Discharge Lamps - III
- Lecture 11 - Illumination Systems - I
- Lecture 12 - Illumination Systems - II
- Lecture 13 - Glare
- Lecture 14 - Color
- Lecture 15 - Interior Lighting
- Lecture 16 - Sports Lighting
- Lecture 17 - Road Lighting
- Lecture 18 - Lighting Calculations
- Lecture 19 - Lighting Applications
- Lecture 20 - Conclusions on Illumination Engineering

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

www.digimat.in

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

NPTEL Video Course - Electrical Engineering - Industrial Automation and Control

Subject Co-ordinator - Prof. S. Sen, Prof. S. Mukhopadhyay

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Introduction
- Lecture 2 - Architecture of Industrial Automation Systems
- Lecture 3 - Measurement Systems Characteristics
- Lecture 4 - Temperature Measurement
- Lecture 5 - Pressure, Force and Torque Sensors
- Lecture 6 - Motion Sensing
- Lecture 7 - Flow Measurement
- Lecture 8 - Signal Conditioning
- Lecture 9 - Signal Conditioning (Continued.)
- Lecture 10 - Data Acquisition Systems
- Lecture 11 - Introduction to Automatic Control
- Lecture 12 - P-I-D Control
- Lecture 13 - PID Control Tuning
- Lecture 14 - Feedforward Control Ratio Control
- Lecture 15 - Time Delay Systems and Inverse Response Systems
- Lecture 16 - Special Control Structures
- Lecture 17 - Concluding Lesson on Process Control
- Lecture 18 - Introduction to Sequence Control, PLC, RLL
- Lecture 19 - Sequence Control. Scan Cycle, Simple RLL Programs
- Lecture 20 - Sequence Control. More RLL Elements, RLL Syntax
- Lecture 21 - A Structured Design Approach to Sequence
- Lecture 22 - PLC Hardware Environment
- Lecture 23 - Introduction To CNC Machines
- Lecture 24 - Contour generation and Motion Control
- Lecture 25 - Flow Control Valves
- Lecture 26 - Hydraulic Control Systems - I
- Lecture 27 - Hydraulic Control Systems - II
- Lecture 28 - Industrial Hydraulic Circuit
- Lecture 29 - Pneumatic Control Systems - I

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

www.digimat.in

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

- Lecture 30 - Pneumatic Systems - II
- Lecture 31 - Energy Savings with Variable Speed Drives
- Lecture 32 - DC Motor Drives
- Lecture 33 - DC and BLDC Servo Drives
- Lecture 34 - Induction Motor Drives
- Lecture 35 - Step Motor Drives BLDC Drives
- Lecture 36 - Embedded Systems
- Lecture 37 - The Fieldbus Network - I
- Lecture 38 - The Fieldbus Network - II
- Lecture 39 - Higher Level Automation Systems
- Lecture 40 - Course Review and Conclusion

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

NPTEL Video Course - Electrical Engineering - Industrial Instrumentation

Subject Co-ordinator - Prof. Alok Barua

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Introduction to Industrial Instrumentation
- Lecture 2 - Dynamic Characteristics
- Lecture 3 - Dynamic Characteristics (Continued.)
- Lecture 4 - Strain gauge
- Lecture 5 - Load cell
- Lecture 6 - Torque Measurement
- Lecture 7 - Thermistor
- Lecture 8 - Thermocouples
- Lecture 9 - Resistance Temperature Detector
- Lecture 10 - LVDT
- Lecture 11 - Capacitance Transducers
- Lecture 12 - Flowmeter - I
- Lecture 13 - Flowmeter - II
- Lecture 14 - Flowmeter - III
- Lecture 15 - Flowmeter - IV
- Lecture 16 - Flowmeter - V
- Lecture 17 - Problems on Temperature Sensors
- Lecture 18 - Pressure Sensors
- Lecture 19 - Low Pressure Measurement
- Lecture 20 - pH and Viscosity Measurement
- Lecture 21 - Problem and Solutions On Industrial Instrumentation
- Lecture 22 - Signal Conditioning Circuits - I
- Lecture 23 - Signal Conditioning Circuits - II
- Lecture 24 - Piezoelectric Sensors
- Lecture 25 - Ultrasonic Sensors
- Lecture 26 - Nucleonic Instrumentation
- Lecture 27 - Measurement Of Magnetic Field
- Lecture 28 - Optoelectronic Sensor - I
- Lecture 29 - Optoelectronic Sensor - II

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

www.digimat.in

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

- Lecture 30 - Synchro
- Lecture 31 - Dissolved Oxygen Sensors - I
- Lecture 32 - Dissolved Oxygen Sensors - II
- Lecture 33 - Flapper - Nozzle
- Lecture 34 - Smart Sensors
- Lecture 35 - Chromatography - I
- Lecture 36 - Chromatography - II
- Lecture 37 - Pollution Measurement
- Lecture 38 - Control Valve - I
- Lecture 39 - Control Valve - II
- Lecture 40 - Signal Conditioning Integrated Circuits

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

NPTEL Video Course - Electrical Engineering - Networks Signals and Systems

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

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction to Network Elements and Sources
Lecture 2 - Introduction to Linearity and Nonlinearity
Lecture 3 - Distributed & Lumped Parameters 2-port Networks
Lecture 4 - Two-port Parameters Short Circuit, Open Circuit
Lecture 5 - Tutorial
Lecture 6 - Locus Diagram - Introduction to Signals
Lecture 7 - Signals (Continued.) Laplace Transforms
Lecture 8 - Laplace Transform (Continued.)
Lecture 9 - Tutorial on Laplace Transform
Lecture 10 - Frequency Response Bode Plot
Lecture 11 - Bode Plot (Continued.)
Lecture 12 - Bode Plot (Continued.) - Poles & Zeros
Lecture 13 - Driving Point Immittance Functions - Realisability Conditions
Lecture 14 - Two - Element Synthesis
Lecture 15 - Two - Element Synthesis (Continued.)
Lecture 16 - Tutorial
Lecture 17 - Tutorial
Lecture 18 - Graph Theory
Lecture 19 - Graph Theory (Continued.)
Lecture 20 - Graph Theory (Continued.)
Lecture 21 - Graph Theory (Continued.)
Lecture 22 - Image Impedance, Iterative Impedance
Lecture 23 - Image Impedance, Iterative Impedance
Lecture 24 - Characteristic Impedance and Design of Filters
Lecture 25 - Analysis of Resistive Networks Computer Aided
Lecture 26 - R-L-C Two-Terminal Network
Lecture 27 - Parts of Network Functions
Lecture 28 - Parts of Network Functions (Continued.)
Lecture 29 - Tutorial

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

www.digimat.in

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

- Lecture 30 - Tutorial (Continued.)
- Lecture 31 - Tutorial
- Lecture 32 - Synthesis of 2-port Network
- Lecture 33 - Synthesis of 2-port Network (Continued.)
- Lecture 34 - Synthesis of 2-port Network (Continued.)
- Lecture 35 - Fourier Series
- Lecture 36 - Fourier Series (Continued.)

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

NPTEL Video Course - Electrical Engineering - Power System Analysis

Subject Co-ordinator - Prof. A.K. Sinha

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction to Power system analysis
Lecture 2 - Introduction to Single Line Diagram
Lecture 3 - Transmission Line Parameters
Lecture 4 - Inductance Calculation (Three Phase)
Lecture 5 - Transmission Line Capacitance
Lecture 6 - Transmission Line Capacitance (Continued..)
Lecture 7 - Transmission Line Modeling
Lecture 8 - Transmission Line Modeling Long Line
Lecture 9 - Transmission Line Steady State Operation
Lecture 10 - Transmission Line Steady State Control Voltage
Lecture 11 - Transmission System A Review
Lecture 12 - Transformer Model
Lecture 13 - Synchronous Machine Model
Lecture 14 - Synchronous Machine Model
Lecture 15 - Load Model
Lecture 16 - Power Flow - I
Lecture 17 - Power Flow - II
Lecture 18 - Power Flow - III
Lecture 19 - Power Flow - IV
Lecture 20 - Power Flow - V
Lecture 21 - Power Flow - VI
Lecture 22 - Power Flow - VII
Lecture 23 - Review of Power System Component Models
Lecture 24 - Review of Power Flow Study
Lecture 25 - Short Circuit Analysis
Lecture 26 - Symmetrical Component Analysis
Lecture 27 - Sequence Networks
Lecture 28 - Unbalanced Fault Analysis
Lecture 29 - Unbalanced Fault Analysis

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

www.digimat.in

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

- Lecture 30 - Fault Analysis for Large power Systems
- Lecture 31 - Bus Impedance Matrix
- Lecture 32 - Asymmetrical Fault Analysis Using Z - Bus
- Lecture 33 - Power System Stability - I
- Lecture 34 - Power System Stability - II
- Lecture 35 - Power System Stability - III
- Lecture 36 - Power System Stability - IV
- Lecture 37 - Power System Stability - V
- Lecture 38 - Power System Stability - VI
- Lecture 39 - Power System Stability - VII
- Lecture 40 - Power System Stability - VIII

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

NPTEL Video Course - Electrical Engineering - NOC:Industrial Automation and Control

Subject Co-ordinator - Prof. S. Mukhopadhyay

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Introduction
- Lecture 2 - Introduction (Continued...)
- Lecture 3 - Architecture of Industrial Automation Systems
- Lecture 4 - Architecture of Industrial Automation Systems (Continued...)
- Lecture 5 - Measurement Systems Characteristics
- Lecture 6 - Measurement Systems Characteristics (Continued...)
- Lecture 7 - Data Acquisition Systems
- Lecture 8 - Data Acquisition Systems (Continued...)
- Lecture 9 - Introduction to Automatic Control
- Lecture 10 - Introduction to Automatic Control (Continued...)
- Lecture 11 - P-I-D Control
- Lecture 12 - P-I-D Control (Continued...)
- Lecture 13 - PID Control Tuning
- Lecture 14 - PID Control Tuning (Continued...)
- Lecture 15 - Feedforward Control Ratio Control
- Lecture 16 - Feedforward Control Ratio Control (Continued...)
- Lecture 17 - Time Delay Systems and Inverse Response Systems
- Lecture 18 - Time Delay Systems and Inverse Response Systems (Continued...)
- Lecture 19 - Special Control Structures
- Lecture 20 - Special Control Structures (Continued...)
- Lecture 21 - Concluding Lesson on Process Control (Self-study)
- Lecture 22 - Introduction to Sequence Control, PLC, RLL
- Lecture 23 - Introduction to Sequence Control, PLC, RLL (Continued...)
- Lecture 24 - Sequence Control. Scan Cycle, Simple RLL Programs
- Lecture 25 - Sequence Control, Scan Cycle, Simple RLL Programs (Continued...)
- Lecture 26 - Sequence Control. More RLL Elements, RLL Syntax
- Lecture 27 - Sequence Control. More RLL Elements, RLL Syntax (Continued...)
- Lecture 28 - A Structured Design Approach to Sequence Control
- Lecture 29 - A Structured Design Approach to Sequence Control (Continued...)

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

www.digimat.in

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

- Lecture 30 - PLC Hardware Environment
- Lecture 31 - PLC Hardware Environment (Continued...)
- Lecture 32 - Flow Control Valves
- Lecture 33 - Flow Control Valves (Continued...)
- Lecture 34 - Hydraulic Control Systems - I
- Lecture 35 - Hydraulic Control Systems - I (Continued...)
- Lecture 36 - Hydraulic Control Systems - II
- Lecture 37 - Hydraulic Control Systems - II (Continued...)
- Lecture 38 - Industrial Hydraulic Circuit
- Lecture 39 - Industrial Hydraulic Circuit (Continued...)
- Lecture 40 - Pneumatic Control Systems - I
- Lecture 41 - Pneumatic Control Systems - I (Continued...)
- Lecture 42 - Pneumatic Systems - II
- Lecture 43 - Pneumatic Systems - II (Continued...)
- Lecture 44 - Energy Savings with Variable Speed Drives
- Lecture 45 - Energy Savings with Variable Speed Drives (Continued...)
- Lecture 46 - Introduction To CNC Machines
- Lecture 47 - Introduction To CNC Machines
- Lecture 48 - The Fieldbus Network - I
- Lecture 49 - The Fieldbus Network - I (Continued...)
- Lecture 50 - Higher Level Automation Systems
- Lecture 51 - Higher Level Automation Systems (Continued...)
- Lecture 52 - Course Review and Conclusion (Self Study)

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

NPTEL Video Course - Electrical Engineering - NOC:Medical Image Analysis

Subject Co-ordinator - Prof. Debdoot Sheet

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Introduction to Medical Image Analysis
- Lecture 2 - X Ray and CT Imaging
- Lecture 3 - Magnetic Resonance Imaging
- Lecture 4 - Ultrasound Imaging
- Lecture 5 - Optical Microscopy and Molecular Imaging
- Lecture 6 - Texture in Medical Images
- Lecture 7 - Region Growing and Clustering
- Lecture 8 - Random Walks for Segmentation
- Lecture 9 - Active Contours for Segmentation
- Lecture 10 - Systematic Evaluation and Validation
- Lecture 11 - Decision Trees for Segmentation and Classification
- Lecture 12 - Random Forests for Segmentation and Classification
- Lecture 13 - Neural Networks for Segmentation and Classification
- Lecture 14 - Deep Learning for Medical Image Analysis
- Lecture 15 - Deep Learning for Medical Image Analysis (Continued...)
- Lecture 16 - Retinal Vessel Segmentation
- Lecture 17 - Vessel Segmentation in Computed Tomography Scan of Lungs
- Lecture 18
- Lecture 19 - Tissue Characterization in Ultrasound
- Lecture 20

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

www.digimat.in

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

NPTEL Video Course - Electrical Engineering - NOC:Biomedical Signal Processing

Subject Co-ordinator - Prof. Sudipta Mukhopadhyay

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Motivation
- Lecture 2 - Preliminaries
- Lecture 3 - Biomedical Signal Origin and Dynamics
- Lecture 4 - Biomedical Signal Origin and Dynamics (Continued...)
- Lecture 5 - Biomedical Signal Origin and Dynamics (Continued...)
- Lecture 6 - Biomedical Signal Origin and Dynamics (Continued...)
- Lecture 7 - Artifact Removal
- Lecture 8 - Artifact Removal (Continued...)
- Lecture 9 - Artifact Removal (Continued...)
- Lecture 10 - Artifact Removal (Continued...)
- Lecture 11 - Artifact Removal (Continued...)
- Lecture 12 - Artifact Removal (Continued...)
- Lecture 13 - Artifact Removal (Continued...)
- Lecture 14 - Artifact Removal (Continued...)
- Lecture 15 - Artifact Removal (Continued...)
- Lecture 16 - Artifact Removal (Continued...)
- Lecture 17 - Artifact Removal (Continued...)
- Lecture 18 - Event Detection
- Lecture 19 - Event Detection (Continued...)
- Lecture 20 - Event Detection (Continued...)
- Lecture 21 - Event Detection (Continued...)
- Lecture 22 - Event Detection (Continued...)
- Lecture 23 - Event Detection (Continued...)
- Lecture 24 - Event Detection (Continued...)
- Lecture 25 - Homomorphic Processing
- Lecture 26 - Homomorphic Processing (Continued...)
- Lecture 27 - Waveform Analysis
- Lecture 28 - Waveform Analysis (Continued...)
- Lecture 29 - Waveform Analysis

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

www.digimat.in

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

- Lecture 30 - Waveform Analysis (Continued...)
- Lecture 31 - Waveform Analysis (Continued...)
- Lecture 32 - Waveform Analysis (Continued...)
- Lecture 33 - Waveform Analysis (Continued...)
- Lecture 34 - Frequency Domain Characterisation
- Lecture 35 - Frequency Domain Characterisation (Continued...)
- Lecture 36 - Frequency Domain Characterisation (Continued...)
- Lecture 37 - Frequency Domain Characterisation (Continued...)
- Lecture 38 - Frequency Domain Characterisation (Continued...)
- Lecture 39 - Frequency Domain Characterisation (Continued...)
- Lecture 40 - Modelling of Biomedical Systems
- Lecture 41 - Modelling of Biomedical Systems (Continued...)
- Lecture 42 - Modelling of Biomedical Systems (Continued...)
- Lecture 43 - Modelling of Biomedical Systems (Continued...)
- Lecture 44 - Modelling of Biomedical Systems (Continued...)
- Lecture 45 - Modelling of Biomedical Systems (Continued...)
- Lecture 46 - Modelling of Biomedical Systems (Continued...)
- Lecture 47 - Tutorial - I
- Lecture 48 - Tutorial - I (Continued...)
- Lecture 49 - Tutorial - I (Continued...)
- Lecture 50 - Tutorial - II
- Lecture 51 - Tutorial - II (Continued...)
- Lecture 52 - Tutorial - II (Continued...)
- Lecture 53 - Tutorial - III
- Lecture 54 - Tutorial - III (Continued...)
- Lecture 55 - Tutorial - III (Continued...)
- Lecture 56 - Tutorial - III (Continued...)
- Lecture 57 - Tutorial - IV
- Lecture 58 - Tutorial - IV (Continued...)
- Lecture 59 - Tutorial - IV (Continued...)
- Lecture 60 - Tutorial - IV (Continued...)
- Lecture 61 - Tutorial - IV (Continued...)
- Lecture 62 - Tutorial - IV (Continued...)
- Lecture 63 - Tutorial - V
- Lecture 64 - Tutorial - V (Continued...)
- Lecture 65 - Tutorial - V (Continued...)
- Lecture 66 - Tutorial - V (Continued...)
- Lecture 67 - Tutorial - V (Continued...)
- Lecture 68 - Live Session

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

www.digimat.in

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

NPTEL Video Course - Electrical Engineering - NOC:Microprocessors and Microcontrollers

Subject Co-ordinator - Prof. Santanu Chattopadhyay

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction
Lecture 2 - Introduction (Continued...)
Lecture 3 - Introduction (Continued...)
Lecture 4 - Basic Computer Organization
Lecture 5 - Basic computer organization
Lecture 6 - Basic Computer Organization
Lecture 7 - 8085 Microprocessors
Lecture 8 - 8085 Microprocessors (Continued...)
Lecture 9 - 8085 Microprocessors (Continued...)
Lecture 10 - 8085 Microprocessors (Continued...)
Lecture 11 - 8085 Microprocessors (Continued...)
Lecture 12 - 8085 Microprocessors (Continued...)
Lecture 13 - 8085 Microprocessors (Continued...)
Lecture 14 - 8085 Microprocessors (Continued...)
Lecture 15 - 8085 Microprocessors (Continued...)
Lecture 16 - 8085 Microprocessors (Continued...)
Lecture 17 - 8085 Microprocessors (Continued...)
Lecture 18 - 8085 Microprocessors (Continued...)
Lecture 19 - 8085 Microprocessors (Continued...)
Lecture 20 - 8085 Microprocessors (Continued...)
Lecture 21 - 8085 Microprocessors (Continued...)
Lecture 22 - 8085 Microprocessors (Continued...)
Lecture 23 - 8051 Microcontroller
Lecture 24 - 8051 Microcontroller (Continued...)
Lecture 25 - 8051Microcontroller (Continued...)
Lecture 26 - 8051 Microcontroller (Continued...)
Lecture 27 - 8051 Microcontroller (Continued...)
Lecture 28 - 8051 Microcontroller (Continued...)
Lecture 29 - 8051 Microcontroller (Continued...)

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

www.digimat.in

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

Lecture 30 - 8051 Microcontroller (Continued...)
Lecture 31 - 8051 Microcontroller (Continued...)
Lecture 32 - 8051 Microcontroller (Continued...)
Lecture 33 - 8051 Microcontroller (Continued...)
Lecture 34 - 8051 Microcontroller (Continued...)
Lecture 35 - 8051 Microcontroller (Continued...)
Lecture 36 - 8051 Programming Examples
Lecture 37 - 8051 Programming Examples (Continued...)
Lecture 38 - 8051 Programming Examples (Continued...)
Lecture 39 - 8051 Programming Examples (Continued...)
Lecture 40 - 8051 Programming Examples (Continued...)
Lecture 41 - ARM
Lecture 42 - ARM (Continued...)
Lecture 43 - ARM (Continued...)
Lecture 44 - ARM (Continued...)
Lecture 45 - ARM (Continued...)
Lecture 46 - ARM (Continued...)
Lecture 47 - ARM (Continued...)
Lecture 48 - ARM (Continued...)
Lecture 49 - PIC
Lecture 50 - PIC, AVR
Lecture 51 - AVR (Continued...)
Lecture 52 - AVR (Continued...)
Lecture 53 - Interfacing
Lecture 54 - Interfacing (Continued...)
Lecture 55 - Interfacing (Continued...)
Lecture 56 - Interfacing (Continued...)
Lecture 57 - Interfacing (Continued...)
Lecture 58 - Interfacing (Continued...)
Lecture 59 - 8086
Lecture 60 - 8086 (Continued...)
Lecture 61 - 8086 (Continued...)
Lecture 62 - 8086 (Continued...)
Lecture 63 - 8086 (Continued...)
Lecture 64 - 8087

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

NPTEL Video Course - Electrical Engineering - NOC:Deep Learning For Visual Computing

Subject Co-ordinator - Prof. Debdoot Sheet

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Introduction to Visual Computing
- Lecture 2 - Feature Extraction for Visual Computing
- Lecture 3 - Feature Extraction with Python
- Lecture 4 - Neural Networks for Visual Computing
- Lecture 5 - Classification with Perceptron Model
- Lecture 6 - Introduction to Deep Learning with Neural Networks
- Lecture 7 - Introduction to Deep Learning with Neural Networks
- Lecture 8 - Multilayer Perceptron and Deep Neural Networks
- Lecture 9 - Multilayer Perceptron and Deep Neural Networks
- Lecture 10 - Classification with Multilayer Perceptron
- Lecture 11 - Autoencoder for Representation Learning and MLP Initialization
- Lecture 12 - MNIST handwritten digits classification using autoencoders
- Lecture 13 - Fashion MNIST classification using autoencoders
- Lecture 14 - ALL-IDB Classification using autoencoders
- Lecture 15 - Retinal Vessel Detection using autoencoders
- Lecture 16 - Stacked Autoencoders
- Lecture 17 - MNIST and Fashion MNIST with Stacked Autoencoders
- Lecture 18 - Denoising and Sparse Autoencoders
- Lecture 19 - Sparse Autoencoders for MNIST classification
- Lecture 20 - Denoising Autoencoders for MNIST classification
- Lecture 21 - Cost Function
- Lecture 22 - Classification cost functions
- Lecture 23 - Optimization Techniques and Learning Rules
- Lecture 24 - Gradient Descent Learning Rule
- Lecture 25 - SGD and ADAM Learning Rules
- Lecture 26 - Convolutional Neural Network Building Blocks
- Lecture 27 - Simple CNN Model
- Lecture 28 - LeNet Definition
- Lecture 29 - Training a LeNet for MNIST Classification

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

www.digimat.in

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

- Lecture 30 - Modifying a LeNet for CIFAR
- Lecture 31 - Convolutional Autoencoder and Deep CNN
- Lecture 32 - Convolutional Autoencoder for Representation Learning
- Lecture 33 - AlexNet
- Lecture 34 - VGGNet
- Lecture 35 - Revisiting AlexNet and VGGNet for Computational Complexity
- Lecture 36 - GoogLeNet - Going very deep with convolutions
- Lecture 37 - GoogLeNet
- Lecture 38 - ResNet - Residual Connections within Very Deep Networks and DenseNet - Densely connected networks
- Lecture 39 - ResNet
- Lecture 40 - DenseNet
- Lecture 41 - Space and Computational Complexity in DNN
- Lecture 42 - Assessing the space and computational complexity of very deep CNNs
- Lecture 43 - Domain Adaptation and Transfer Learning in Deep Neural Networks
- Lecture 44 - Transfer Learning a GoogLeNet
- Lecture 45 - Transfer Learning a ResNet
- Lecture 46 - Activation pooling for object localization
- Lecture 47 - Region Proposal Networks (rCNN and Faster rCNN)
- Lecture 48 - GAP + rCNN
- Lecture 49 - Semantic Segmentation with CNN
- Lecture 50 - UNet and SegNet for Semantic Segmentation
- Lecture 51 - Autoencoders and Latent Spaces
- Lecture 52 - Principle of Generative Modeling
- Lecture 53 - Adversarial Autoencoders
- Lecture 54 - Adversarial Autoencoder for Synthetic Sample Generation
- Lecture 55 - Adversarial Autoencoder for Classification
- Lecture 56 - Understanding Video Analysis
- Lecture 57 - Recurrent Neural Networks and Long Short-Term Memory
- Lecture 58 - Spatio-Temporal Deep Learning for Video Analysis
- Lecture 59 - Activity recognition using 3D-CNN
- Lecture 60 - Activity recognition using CNN-LSTM

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

NPTEL Video Course - Electrical Engineering - NOC:Power System Engineering

Subject Co-ordinator - Prof. Debapriya Das

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1

Lecture 2

Lecture 3

Lecture 4

Lecture 5

Lecture 6

Lecture 7

Lecture 8

Lecture 9

Lecture 10

Lecture 11 - Cables (Continued...)

Lecture 12 - Transient over voltages and Insulation coordination

Lecture 13 - Transient over voltages and Insulation coordination (Continued...)

Lecture 14 - Transient over voltages and Insulation coordination (Continued...)

Lecture 15 - Transient over voltages and Insulation coordination (Continued...)

Lecture 16 - Transient over voltages and Insulation coordination (Continued...)

Lecture 17 - Transient over voltages and Insulation coordination (Continued...)

Lecture 18 - Transient over voltages and Insulation coordination (Continued...)

Lecture 19 - Transient over voltages and Insulation coordination (Continued...)

Lecture 20 - Corona

Lecture 21 - Corona (Continued...)

Lecture 22 - Corona (Continued...)

Lecture 23 - Corona (Continued...), Sag and Tension Analysis

Lecture 24 - Sag and Tension Analysis (Continued...)

Lecture 25 - Sag and Tension Analysis (Continued...)

Lecture 26 - Sag and Tension Analysis (Continued...)

Lecture 27 - Sag and Tension Analysis (Continued...)

Lecture 28 - Sag and Tension Analysis (Continued...)

Lecture 29 - Load flow of radial distribution networks

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

www.digimat.in

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

- Lecture 30 - Load flow of radial distribution networks (Continued...)
- Lecture 31 - Load flow of radial distribution networks (Continued...)
- Lecture 32 - Load flow of radial distribution networks (Continued...)
- Lecture 33 - Load flow of radial distribution networks (Continued...)
- Lecture 34 - Load flow of radial distribution networks (Continued...)
- Lecture 35 - Load flow of radial distribution networks (Continued...)
- Lecture 36 - Load flow of radial distribution networks (Continued...)
- Lecture 37 - Load flow of radial distribution networks (Continued...), Voltage stability of distribution network
- Lecture 38 - Voltage stability of distribution network, Approximate method
- Lecture 39 - Application of capacitors in distribution system
- Lecture 40 - Application of capacitors in distribution system (Continued...)
- Lecture 41 - Application of capacitors in distribution system (Continued...)
- Lecture 42 - Application of capacitors in distribution system (Continued...)
- Lecture 43 - Application of capacitors in distribution system (Continued...)
- Lecture 44 - Application of capacitors in distribution system (Continued...), Load frequency control
- Lecture 45 - Load frequency control (Continued...)
- Lecture 46 - Load frequency control (Continued...)
- Lecture 47 - Load frequency control (Continued...)
- Lecture 48 - Load frequency control (Continued...)
- Lecture 49 - Load frequency control (Continued...)
- Lecture 50 - Load frequency control (Continued...)
- Lecture 51 - Load frequency control (Continued...)
- Lecture 52 - Load frequency control (Continued...)
- Lecture 53 - Load frequency control (Continued...)
- Lecture 54 - Load frequency control (Continued...)
- Lecture 55 - Load frequency control (Continued...)
- Lecture 56 - Load frequency control (Continued...)
- Lecture 57 - Automatic generation control
- Lecture 58 - Automatic generation control (Continued...)
- Lecture 59 - Automatic generation control (Continued...), Unit commitment
- Lecture 60 - Unit commitment (Continued...)
- Lecture 61 - Live Session

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

NPTEL Video Course - Electrical Engineering - NOC:Fundamentals of Electrical Engineering

Subject Co-ordinator - Prof. Debapriya Das

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Basic Concepts, Examples
Lecture 2 - Basic Concepts, Examples (Continued...)
Lecture 3 - Basic Concepts, Examples (Continued...)
Lecture 4 - Basic Concepts, Examples (Continued...)
Lecture 5 - Basic Laws
Lecture 6 - Basic Laws (Continued...)
Lecture 7 - Basic Laws (Continued...)
Lecture 8 - Basic Laws (Continued...)
Lecture 9 - Basic Laws (Continued...)
Lecture 10 - Basic Laws (Continued...)
Lecture 11 - Methods of Circuit Analysis
Lecture 12 - Methods of Circuit Analysis (Continued...)
Lecture 13 - Methods of Circuit Analysis (Continued...)
Lecture 14 - Methods of Circuit Analysis (Continued...)
Lecture 15 - Methods of Circuit Analysis (Continued...)
Lecture 16 - Methods of Circuit Analysis (Continued...)
Lecture 17 - Mesh analysis with current sources, Examples
Lecture 18 - Methods of Circuit Analysis (Continued...) and Circuit Theorems
Lecture 19 - Circuit Theorems (Continued...)
Lecture 20 - Circuit Theorems (Continued...)
Lecture 21 - Circuit Theorems (Continued...)
Lecture 22 - Circuit Theorems (Continued...)
Lecture 23 - Circuit Theorems (Continued...)
Lecture 24 - Circuit Theorems (Continued...)
Lecture 25 - Circuit Theorems (Continued...) and Capacitors and Inductors
Lecture 26 - Capacitors and Inductors (Continued...)
Lecture 27 - Capacitors and Inductors (Continued...)
Lecture 28 - Capacitors and Inductors (Continued...)
Lecture 29 - First Order Circuits

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

www.digimat.in

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

- Lecture 30 - First Order Circuits (Continued...)
- Lecture 31 - First Order Circuits (Continued...)
- Lecture 32 - First Order Circuits (Continued...)
- Lecture 33 - First Order Circuits (Continued...)
- Lecture 34 - First Order Circuits (Continued...)
- Lecture 35 - First Order Circuits (Continued...)
- Lecture 36 - First Order Circuits (Continued...)
- Lecture 37 - Single phase AC circuits
- Lecture 38 - Single phase AC circuits (Continued...)
- Lecture 39 - Single phase AC circuits (Continued...)
- Lecture 40 - Single phase AC circuits (Continued...)
- Lecture 41 - Single phase AC circuits (Continued...)
- Lecture 42 - Single phase AC circuits (Continued...)
- Lecture 43 - Single phase AC circuits (Continued...)
- Lecture 44 - Resonance and Maximum Power Transfer Theorem
- Lecture 45 - Resonance and Maximum Power Transfer Theorem (Continued...)
- Lecture 46 - Resonance and Maximum Power Transfer Theorem (Continued...)
- Lecture 47 - Three phase circuits
- Lecture 48 - Three phase circuits (Continued...)
- Lecture 49 - Three phase circuits (Continued...)
- Lecture 50 - Three phase circuits (Continued...)
- Lecture 51 - Magnetic Circuits
- Lecture 52 - Magnetic Circuits (Continued...)
- Lecture 53 - Magnetic Circuits (Continued...)
- Lecture 54 - Single Phase Transformer
- Lecture 55 - Single Phase Transformer (Continued...)
- Lecture 56 - Single Phase Transformer (Continued...)
- Lecture 57 - Single Phase Transformer (Continued...)
- Lecture 58 - Three phase Induction Motors
- Lecture 59 - Three phase Induction Motors (Continued...)
- Lecture 60 - Three phase Induction Motors (Continued...)
- Lecture 61 - Three phase Induction Motors (Continued...)
- Lecture 62 - DC Motors
- Lecture 63 - DC Motors (Continued...)
- Lecture 64 - DC Motors (Continued...)

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

NPTEL Video Course - Electrical Engineering - NOC:Digital Circuits

Subject Co-ordinator - Prof. Santanu Chattopadhyay

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction
Lecture 2 - Introduction (Continued...)
Lecture 3 - Number System
Lecture 4 - Number System (Continued...)
Lecture 5 - Number System (Continued...)
Lecture 6 - Number System (Continued...)
Lecture 7 - Number System (Continued...)
Lecture 8 - Boolean Algebra
Lecture 9 - Boolean Algebra (Continued...)
Lecture 10 - Boolean Algebra (Continued...)
Lecture 11 - Boolean Algebra (Continued...)
Lecture 12 - Boolean Algebra (Continued...)
Lecture 13 - Boolean Algebra (Continued...)
Lecture 14 - Logic Gates
Lecture 15 - Logic Gates (Continued...)
Lecture 16 - Logic Gates (Continued...)
Lecture 17 - Logic Gates (Continued...)
Lecture 18 - Logic Gates (Continued...)
Lecture 19 - Logic Gates (Continued...)
Lecture 20 - Arithmetic Circuits
Lecture 21 - Arithmetic Circuits (Continued...)
Lecture 22 - Arithmetic Circuits (Continued...)
Lecture 23 - Decoders, Multiplexers, PLA
Lecture 24 - Decoders, Multiplexers, PLA (Continued...)
Lecture 25 - Decoders, Multiplexers, PLA (Continued...)
Lecture 26 - Decoders, Multiplexers, PLA (Continued...)
Lecture 27 - Decoders, Multiplexers, PLA (Continued...)
Lecture 28 - Sequential Circuits
Lecture 29 - Sequential Circuits (Continued...)

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

www.digimat.in

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

- Lecture 30 - Sequential Circuits (Continued...)
- Lecture 31 - Sequential Circuits (Continued...)
- Lecture 32 - Sequential Circuits (Continued...)
- Lecture 33 - Sequential Circuits (Continued...)
- Lecture 34 - Sequential Circuits (Continued...)
- Lecture 35 - Finite State Machine
- Lecture 36 - Finite State Machine (Continued...)
- Lecture 37 - Data Converters
- Lecture 38 - Data Converters (Continued...)
- Lecture 39 - Data Converters (Continued...)
- Lecture 40 - Data Converters (Continued...)
- Lecture 41 - Memory
- Lecture 42 - Memory (Continued...)
- Lecture 43 - Memory (Continued...)
- Lecture 44 - FPGA
- Lecture 45 - FPGA (Continued...)
- Lecture 46 - VHDL
- Lecture 47 - VHDL(Continued...)
- Lecture 48 - 8085 Microprocessor
- Lecture 49 - 8085 Microprocessor (Continued...)
- Lecture 50 - 8085 Microprocessor (Continued...)
- Lecture 51 - 8085 Microprocessor (Continued...)
- Lecture 52 - 8085 Microprocessor (Continued...)
- Lecture 53 - 8085 Microprocessor (Continued...)
- Lecture 54 - 8085 Microprocessor (Continued...)
- Lecture 55 - 8085 Microprocessor (Continued...)
- Lecture 56 - 8085 Microprocessor (Continued...)
- Lecture 57 - 8085 Microprocessor (Continued...)
- Lecture 58 - 8085 Microprocessor (Continued...)
- Lecture 59 - 8085 Microprocessor (Continued...)
- Lecture 60 - 8085 Microprocessor (Continued...)
- Lecture 61 - 8085 Microprocessor (Continued...)
- Lecture 62 - 8085 Microprocessor (Continued...)
- Lecture 63 - 8086 Microprocessor
- Lecture 64 - 8086 Microprocessor (Continued...)
- Lecture 65 - 8086 Microprocessor (Continued...)

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

NPTEL Video Course - Electrical Engineering - NOC:Analysis and Design Principles of Microwave Antennas

Subject Co-ordinator - Dr. Amitabha Bhattacharya

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Concept of Scalar and Vector Potentials
- Lecture 2 - Radiation From a Current Element (Hertzian Dipole)
- Lecture 3 - Specific Properties of the Radiated Fields from a Current Element
- Lecture 4 - General Properties of Radiated Fields from an Antenna
- Lecture 5 - Farfield and Radiation Pattern of an Antenna
- Lecture 6 - Directivity and Gain of an Antenna
- Lecture 7 - Idea of Efficiency, Beamwidth, Polarisation and Bandwidth
- Lecture 8 - Polarization of Antenna
- Lecture 9 - Impedance of Antenna
- Lecture 10 - Effective Aperture of an Antenna
- Lecture 11 - Friss Transmission Equation and Antenna Temperature
- Lecture 12 - Dipole And Monopole Antena
- Lecture 13 - Dipole And Monopole Antena (Continued...)
- Lecture 14 - BALUN
- Lecture 15 - Loop Antenna
- Lecture 16 - Folded Dipole Antenna
- Lecture 17 - Introduction to Antenna Array
- Lecture 18 - Antenna Array Theory
- Lecture 19 - Broadside Uniform Linear Array
- Lecture 20 - Endfire Linear Uniform Array
- Lecture 21 - Parasitic Array and Log Periodic Antenna
- Lecture 22 - Analysis Procedures of Aperture Antennas
- Lecture 23 - Analysis Procedures of Aperture Antenna (Continued...)
- Lecture 24 - Horn Antenna
- Lecture 25 - Horn Antenna (Continued...)
- Lecture 26 - Reflector Antennas
- Lecture 27 - Paraboloid Reflector Antenna (Continued...)
- Lecture 28 - Paraboloid Reflector Antenna (Continued...)
- Lecture 29 - Dual Reflector Antenna

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

www.digimat.in

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

- Lecture 30 - Generalised Analysis of Antenna
- Lecture 31 - Solution of Wave Equation for Electric and Magnetic Current Densities
- Lecture 32 - Farfield Evaluation of Spherical Wave Radiation by Generalised Antenna
- Lecture 33 - Slot Antenna
- Lecture 34 - Open Ended Waveguide Antenna and Microstrip Antenna
- Lecture 35 - Numerical Evaluation of Wire Antenna Currents
- Lecture 36 - Solution of Intregal Equation by Moment Method
- Lecture 37 - Array Pattern Synthesis
- Lecture 38 - Array Pattern Synthesis (Continued...)
- Lecture 39 - Ultra Wideband Antennas
- Lecture 40 - Antenna Measurements

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

NPTEL Video Course - Electrical Engineering - NOC:Architectural Design of Digital Integrated Circuits

Subject Co-ordinator - Prof. Indranil Hatai

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction to VLSI Design Flow
Lecture 2 - Introduction to VLSI Design Flow
Lecture 3 - Introduction to VLSI Design Flow
Lecture 4 - Algorithm to Efficient Architecture Mapping
Lecture 5 - Algorithm to Efficient Architecture Mapping (Continued...)
Lecture 6 - Algorithm to Efficient Architecture Mapping (Continued...)
Lecture 7 - Tutorial on Algorithm to Efficient Architecture Mapping
Lecture 8 - Algorithm to Efficient Architecture Mapping (Continued...)
Lecture 9 - Algorithm to Efficient Architecture Mapping (Continued...)
Lecture 10 - Algorithm to Efficient Architecture Mapping (Continued...)
Lecture 11 - Algorithm to Efficient Architecture Mapping (Continued...)
Lecture 12 - Algorithm to Efficient Architecture Mapping (Continued...)
Lecture 13 - Algorithm to Efficient Architecture Mapping
Lecture 14 - Algorithm to Efficient Architecture Mapping (Continued...)
Lecture 15 - Efficient Adder Architecture
Lecture 16 - Efficient Adder Architecture (Continued...)
Lecture 17 - Efficient Adder Architecture (Continued...)
Lecture 18 - Efficient Adder Architecture
Lecture 19 - Efficient Adder Architecture
Lecture 20 - Efficient Adder Architecture
Lecture 21 - Efficient Adder Architecture
Lecture 22 - Efficient Adder Architecture
Lecture 23 - Efficient Adder Architecture
Lecture 24 - Efficient Adder Architecture
Lecture 25 - Pipelining and Parallel Processing
Lecture 26 - Pipelining and Parallel Processing
Lecture 27 - Multiplier Architecture
Lecture 28 - Multiplier Architecture
Lecture 29 - Multiplier Architecture

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

www.digimat.in

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

- Lecture 30 - Multiplier Architecture
- Lecture 31 - Multiplier Architecture
- Lecture 32 - Multiplier Architecture
- Lecture 33 - Multiplier Architecture
- Lecture 34 - Multiplier Architecture
- Lecture 35 - Squaring Circuit Design
- Lecture 36 - Reconfigurable Constant Multiplier Design
- Lecture 37 - Reconfigurable Constant Multiplier Design
- Lecture 38 - Reconfigurable Constant Multiplier Design
- Lecture 39 - Fixed Point Number Representation
- Lecture 40 - Fixed Point Number Representation
- Lecture 41 - CORDIC Architecture
- Lecture 42 - CORDIC Architecture
- Lecture 43 - CORDIC Architecture
- Lecture 44 - CORDIC Architecture
- Lecture 45 - Timing Analysis
- Lecture 46 - Timing Analysis
- Lecture 47 - Timing Analysis
- Lecture 48 - Logic Hazard

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

NPTEL Video Course - Electrical Engineering - Modelling and Analysis of Electric Machines

Subject Co-ordinator - Dr. Krishna Vasudevan

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction

Lecture 2 - Magnetic Fields

Lecture 3 - Magnetic Circuit

Lecture 4 - Singly Excited Linear Motion System

Lecture 5 - Linear and Cylindrical Motion Systems

Lecture 6 - Systems with Multiple Excitations

Lecture 7 - Non-linear Magnetic Systems

Lecture 8 - Inductances in Constant Air gap Machines

Lecture 9 - Inductance in Salient Pole Machine - I

Lecture 10 - Inductance in Salient Pole Machine - II

Lecture 11 - Inductance in Salient Pole Machine - III

Lecture 12 - Inductance in Salient Pole Machine - IV

Lecture 13 - Inductance in Salient Pole Machine - V

Lecture 14 - Inductances of Distributed Winding - I

Lecture 15 - Inductances of Distributed Winding - II

Lecture 16 - Inductances of Distributed Winding - III

Lecture 17 - Dynamic Equations of Induction Machines

Lecture 18 - Dynamic Equations of Salient Pole Synchronous Machine

Lecture 19 - Three-to-Two Phase Transformation

Lecture 20 - Induction Machine in Two-Phase Reference Frame

Lecture 21 - The Pseudo-Stationary Reference Frame

Lecture 22 - Induction Machine in Pseudo-Stationary Reference Frame

Lecture 23 - The Primitive Machine Equations

Lecture 24 - Dynamic Equations of DC Machines

Lecture 25 - Small Signal Model of DC Machine

Lecture 26 - Small Signal Behaviour of DC Machine

Lecture 27 - The Arbitrary Reference Frame

Lecture 28 - Induction Machine Equations in Arbitrary, Synchronous Reference Frames and Small Signal Modelling

Lecture 29 - Introduction to Field Oriented Control of Induction Machines

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

www.digimat.in

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

- Lecture 30 - Space Vector Formulation of Induction Machine Equations
- Lecture 31 - Modelling of Salient Pole Synchronous Machines - I
- Lecture 32 - Modelling of Salient Pole Synchronous Machines - II
- Lecture 33 - Modelling of Salient Pole Synchronous Machines - III
- Lecture 34 - Steady State Models - Induction Machine
- Lecture 35 - Steady State Models - Salient Pole Synchronous Machine
- Lecture 36 - Solution of Dynamic Equations of Induction Machine - I
- Lecture 37 - Solution of Dynamic Equations of Induction Machine - II
- Lecture 38 - Reactances of Salient Pole Synchronous Machines - I
- Lecture 39 - Reactances of Salient Pole Synchronous Machines - II
- Lecture 40 - Reactances of Salient Pole Synchronous Machines - III
- Lecture 41 - Sudden Short Circuit of Three Phase Alternator - Analytical Solution
- Lecture 42 - Sudden Short Circuit of Three Phase Alternator - Numerical Simulation
- Lecture 43 - Course Recapitulation and Assignments

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

NPTEL Video Course - Electrical Engineering - Analog ICs

Subject Co-ordinator - Prof. K. Radhakrishna Rao

Co-ordinating Institute - IIT - Madras | Texas Instruments - India

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

- Lecture 1 - Basic Building Blocks In Analog ICs
- Lecture 2 - Current Mirrors
- Lecture 3 - Translinear Networks
- Lecture 4 - Differential Amplifier
- Lecture 5 - Differential Amplifier Characteristics
- Lecture 6 - Video Amplifier and RF/IF Amplifiers
- Lecture 7 - Cascade Amplifier
- Lecture 8 - IC Negative Feedback Wide Band Amplifiers
- Lecture 9 - IC Negative Feedback Amplifiers
- Lecture 10 - Voltage Sources And References
- Lecture 11 - IC Voltage Regulator
- Lecture 12 - Characteristics and Parameters Of Voltage
- Lecture 13 - Protection Circuitry For Voltage Regulator
- Lecture 14 - Switched Mode Regulator And Operational
- Lecture 15 - IC Operational Voltage Amplifier
- Lecture 16 - General Purpose Operational Amplifier-747
- Lecture 17 - Transconductance Operational Amplifier
- Lecture 18 - Audio Power Amplifier and Norton's Amplifier
- Lecture 19 - Analog Multipliers
- Lecture 20 - Analog Multipliers
- Lecture 21 - Voltage Controlled Oscillator
- Lecture 22 - Voltage Controlled Oscillator
- Lecture 23 - Self Tuned Filter
- Lecture 24 - Phase Locked Loop²⁴ Phase Locked Loop
- Lecture 25 - Phase Locked Loop
- Lecture 26 - Phase Locked Loop
- Lecture 27 - Phase Locked Loop
- Lecture 28 - Current Mode ICs

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

www.digimat.in

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

NPTEL Video Course - Electrical Engineering - Digital Integrated Circuits

Subject Co-ordinator - Prof. Amitava Dasgupta

Co-ordinating Institute - IIT - Madras

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

- Lecture 1 - Semiconductors
- Lecture 2 - Modelling of PN Junction Diodes
- Lecture 3 - Modelling of BJTs
- Lecture 4 - Diode and BJT Model Parameter Extraction
- Lecture 5 - BJT Inverters DC and Switching Characteristics
- Lecture 6 - Schottky Transistor
- Lecture 7 - Specifications of Logic Circuits
- Lecture 8 - Qualitative discussion on TTL Circuits
- Lecture 9 - Standard TTL Circuits
- Lecture 10 - Schottky (74s..) and Low power Schottky (74ls)
- Lecture 11 - Advanced TTL Circuits
- Lecture 12 - I² L Technology
- Lecture 13 - Edge triggered D-F/F
- Lecture 14 - I² L - Condition for Proper Operation
- Lecture 15 - I² L - Propagation delay Self aligned
- Lecture 16 - Schottky Transistor Logic
- Lecture 17 - Stacked I² L
- Lecture 18 - ECL Basic Operation
- Lecture 19 - Quantitative analysis of ECL 10k Series gates
- Lecture 20 - ECL 100k series; Stacked ECL gates; D-F/F
- Lecture 21 - Emitter Function Logic; Low Power ECL
- Lecture 22 - Polyemitter Bipolar Transistor In ECL; Propagation
- Lecture 23 - Heterojunction Bipolar Transistor Based ECL; ECL
- Lecture 24 - nMOS Logic Circuits
- Lecture 25 - nMOS Logic Circuits(contd); CMOS
- Lecture 26 - CMOS Inverter
- Lecture 27 - CMOS NAND, NOR and Other Gates
- Lecture 28 - Dynamic CMOS ; Transmission Gates; Realization Of MUX, decoder, D-F/F
- Lecture 29 - BiCMOS Gates

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

www.digimat.in

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

- Lecture 30 - BiCMOS Driver;BiCMOS 32-bit Adder
- Lecture 31 - Digital Integrated Circuits
- Lecture 32 - Digital Integrated Circuits
- Lecture 33 - CMOS SRAM
- Lecture 34 - BiCMOS SRAM
- Lecture 35 - DRAM-CMOS and BiCMOS
- Lecture 36 - ROM-EPROM,EEPROM and Flash EPROM
- Lecture 37 - GaAs MESFET Characteristics and Equivalent Circuits
- Lecture 38 - Direct Coupled FET Logic; Superbuffer FET Logic
- Lecture 39 - Buffered FET Logic; Schottky Diode FET Logic
- Lecture 40 - Transmission Line Effects

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

NPTEL Video Course - Electrical Engineering - Electromagnetic Fields

Subject Co-ordinator - Prof. Harishankar Ramachandran

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction To Vector
Lecture 2 - Introduction To Vector (Continued...)
Lecture 3 - Coulomb's Law
Lecture 4 - Electric Field
Lecture 5 - Electro Static Potential
Lecture 6 - The Gradient
Lecture 7 - Gauss's Law
Lecture 8 - Poisson's Equation
Lecture 9 - Energy In The Field
Lecture 10 - Sample Problems In Electrostatics
Lecture 11 - Fields In Materials
Lecture 12 - Fields In Material Bodies
Lecture 13 - Displacement Vectors
Lecture 14 - Capacitors
Lecture 15 - Method Of Images
Lecture 16 - Poisson's Equation 2 Dimensions
Lecture 17 - Field Near Sharp Edges And Points
Lecture 18 - Magnetic Field 1
Lecture 19 - Magnetic Field 2
Lecture 20 - Stokes Theorems
Lecture 21 - The curl
Lecture 22 - Field due to current loop
Lecture 23 - Ampere's law
Lecture 24 - Examples of Ampere's law
Lecture 25 - Inductance
Lecture 26 - Mutual Inductance
Lecture 27 - Faraday's law
Lecture 28 - Magnetic Energy
Lecture 29 - Magnetic Energy (Continued...)

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

www.digimat.in

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

- Lecture 30 - Magnetic Energy (Continued...)
- Lecture 31 - Generalised Ampere's Law
- Lecture 32 - The Wave Equation
- Lecture 33 - The Wave Equation
- Lecture 34 - Poynting Theorem
- Lecture 35 - Skin Effect
- Lecture 36 - Skin Effect (Continued...)
- Lecture 37 - Radiation And Circuits
- Lecture 38 - Phasor Form Of Poynting Theorem
- Lecture 39 - Reflection At Dielectric Boundaries
- Lecture 40 - Reflection At Dielectric Boundaries (Continued...)
- Lecture 41 - Transmission Lines
- Lecture 42 - Transmission Lines (Continued...) and Conclusion

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

NPTEL Video Course - Electrical Engineering - Networks and Systems

Subject Co-ordinator - Prof. V.G.K. Murti

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introductory Concepts - 1
Lecture 2 - Introductory Concepts - 2
Lecture 3 - Introductory Concepts - 3
Lecture 4 - Introductory Concepts - 4
Lecture 5 - Introductory Concepts - 5
Lecture 6 - Introductory Concepts - 6
Lecture 7 - Fourier Series - 1
Lecture 8 - Fourier Series - 2
Lecture 9 - Fourier Series - 3
Lecture 10 - Fourier Series - 4
Lecture 11 - Fourier Series - 5
Lecture 12 - Fourier Series - 6
Lecture 13 - Fourier Transforms - 1
Lecture 14 - Fourier Transforms - 2
Lecture 15 - Fourier Transforms - 3
Lecture 16 - Fourier Transforms - 4
Lecture 17 - Fourier Transforms - 5
Lecture 18 - Fourier Transforms - 6
Lecture 19 - Fourier Transforms - 7
Lecture 20 - Laplace Transforms - 1
Lecture 21 - Laplace Transforms - 2
Lecture 22 - Laplace Transforms - 3
Lecture 23 - Laplace Transforms - 4
Lecture 24 - Laplace Transforms - 5
Lecture 25 - Laplace Transforms - 6
Lecture 26 - Application of Laplace Transforms - 1
Lecture 27 - Application of Laplace Transforms - 2
Lecture 28 - Application of Laplace Transforms - 3
Lecture 29 - Application of Laplace Transforms - 4

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

www.digimat.in

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

Lecture 30	- Network Functions	- 1
Lecture 31	- Network Functions	- 2
Lecture 32	- Network Functions	- 3
Lecture 33	- Network Functions	- 4
Lecture 34	- Network Theorems	- 1
Lecture 35	- Network Theorems	- 2
Lecture 36	- Network Theorems	- 3
Lecture 37	- Network Theorems	- 4
Lecture 38	- Discrete - Time Systems	- 1
Lecture 39	- Discrete - Time Systems	- 2
Lecture 40	- Discrete - Time Systems	- 3
Lecture 41	- Discrete - Time Systems	- 4
Lecture 42	- Discrete - Time Systems	- 5
Lecture 43	- Discrete - Time Systems	- 6
Lecture 44	- Discrete - Time Systems	- 7
Lecture 45	- State-Variable Methods	- 1
Lecture 46	- State-Variable Methods	- 2
Lecture 47	- State Variable Methods	- 3
Lecture 48	- State Variable Methods	- 4
Lecture 49	- State Variable Methods	- 5
Lecture 50	- State Variable Methods	- 6

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

NPTEL Video Course - Electrical Engineering - Probability Foundation for Electrical Engineers

Subject Co-ordinator - Dr. Krishna Jagannathan

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction

Lecture 2 - Cardinality and Countability - 1

Lecture 3 - Cardinality and Countability - 2

Lecture 4 - Probability Spaces - 1

Lecture 5 - Probability Spaces - 2

Lecture 6 - Properties of Probability Measures

Lecture 7 - Discrete Probability Spaces

Lecture 8 - Generated σ -Algebra, Borel Sets

Lecture 9 - Borel Sets and Lebesgue Measure - 1

Lecture 10 - Borel Sets and Lebesgue Measure - 2

Lecture 11 - The Infinite Coin Toss Model

Lecture 12 - Conditional Probability and Independence

Lecture 13 - Independence (Continued...)

Lecture 14 - The Borel-Cantelli Lemmas

Lecture 15 - Random Variables

Lecture 16 - Cumulative Distribution Function

Lecture 17 - Types of Random Variables

Lecture 18 - Continuous Random Variables

Lecture 19 - Continuous Random Variables (Continued...) And Singular Random Variables

Lecture 20 - Several Random Variables

Lecture 21 - Independent Random Variables - 1

Lecture 22 - Independent Random Variables - 2

Lecture 23 - Jointly Continuous Random Variables

Lecture 24 - Transformation of Random Variables - 1

Lecture 25 - Transformation of Random Variables - 2

Lecture 26 - Transformation of Random Variables - 3

Lecture 27 - Transformation of Random Variables - 4

Lecture 28 - Integration And Expectation - 1

Lecture 29 - Integration And Expectation - 2

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

www.digimat.in

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

- Lecture 30 - Properties of Integrals
- Lecture 31 - Monotone Convergence Theorem
- Lecture 32 - Expectation of Discrete Random Variables, Expectation Over Different Spaces
- Lecture 33 - Expectation of Discrete Random Variables
- Lecture 34 - Fatou's Lemma and Dominated Convergence Theorem
- Lecture 35 - Variance and Covariance
- Lecture 36 - Covariance, Correlation Coefficient
- Lecture 37 - Conditional Expectation
- Lecture 38 - MMSE Estimator, Transforms
- Lecture 39 - Moment Generating Function
- Lecture 40 - Characteristic Function - 1
- Lecture 41 - Characteristic Function - 2
- Lecture 42 - Concentration Inequalities
- Lecture 43 - Convergence of Random Variables - 1
- Lecture 44 - Convergence of Random Variables - 2
- Lecture 45 - Convergence of Random Variables - 3
- Lecture 46 - Convergence of Characteristic Functions, Limit Theorems
- Lecture 47 - The Laws of Large Numbers
- Lecture 48 - The Central Limit Theorem
- Lecture 49 - A Brief Overview of Multivariate Gaussians

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

NPTEL Video Course - Electrical Engineering - NOC:Analog Circuits

Subject Co-ordinator - Dr. Nagendra Krishnapura

Co-ordinating Institute - IIT - Madras

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

- Lecture 1 - Introduction to the course
- Lecture 2 - Obtaining power gain
- Lecture 3 - Obtaining power gain using a linear two port?
- Lecture 4 - One port (two terminal) nonlinear element
- Lecture 5 - Nonlinear circuit analysis
- Lecture 6 - Small signal incremental analysis-graphical view
- Lecture 7 - Small signal incremental analysis
- Lecture 8 - Incremental equivalent circuit
- Lecture 9 - Large signal characteristics of a diode
- Lecture 10 - Analysis of diode circuits
- Lecture 11 - Small signal model of a diode
- Lecture 12 - Two port nonlinearity
- Lecture 13 - Small signal equivalent of a two port network
- Lecture 14 - Small signal equivalent circuit of a two port network
- Lecture 15 - Gain of a two port network
- Lecture 16 - Constraints on small signal parameters to maximize the gain
- Lecture 17 - Constraints on large signal characteristics to maximize the gain
- Lecture 18 - Implications of constraints in terms of the circuit equivalent
- Lecture 19 - MOS transistor-description
- Lecture 20 - MOS transistor large signal characteristics
- Lecture 21 - MOS transistor large signal characteristics-graphical view
- Lecture 22 - MOS transistor small signal characteristics
- Lecture 23 - Linear (Triode) region of the MOS transistor
- Lecture 24 - Small signal amplifier using the MOS transistor
- Lecture 25 - Basic amplifier structure
- Lecture 26 - Problems with the basic structure
- Lecture 27 - Adding bias and signal-ac coupling
- Lecture 28 - Common source amplifier with biasing
- Lecture 29 - Common source amplifier

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

www.digimat.in

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

- Lecture 30 - Common source amplifier analysis
- Lecture 31 - Constraint on the input coupling capacitor
- Lecture 32 - Constraint on the output coupling capacitor
- Lecture 33 - Dependence of I_d on V_{ds}
- Lecture 34 - Small signal output conductance of a MOS TRANSISTOR
- Lecture 35 - Effect of g_{ds} on a common source amplifier, Inherent gain limit of a Transistor
- Lecture 36 - Variation of g_m with transistors parameters
- Lecture 37 - Variation of g_m with constant V_{gs} and constant drain current bias
- Lecture 38 - Negative feedback control for constant drain current bias
- Lecture 39 - Types of feedback for constant drain current bias
- Lecture 40 - Sense at the drain and feedback to the gate-Drain feedback
- Lecture 41 - Intuitive explanation of low sensitivity with drain feedback
- Lecture 42 - Common source amplifier with drain feedback bias
- Lecture 43 - Constraint on the gate bias resistor
- Lecture 44 - Constraint on the input coupling capacitor.
- Lecture 45 - Constraint on the output coupling capacitor.
- Lecture 46 - Input and output resistances of the common source amplifier with constant VGS bias
- Lecture 47 - Current mirror
- Lecture 48 - Common source amplifier with current mirror bias
- Lecture 49 - Constraint on coupling capacitors and bias resistance
- Lecture 50 - Diode connected transistor
- Lecture 51 - Source feedback biasing
- Lecture 52 - Common source amplifier with source feedback bias
- Lecture 53 - Constraints on capacitor values
- Lecture 54 - Sensing at the drain and feeding back to the source
- Lecture 55 - Sensing at the source and feeding back to the gate
- Lecture 56 - Ensuring that transistor is in saturation
- Lecture 57 - Using a resistor instead of current source for biasing
- Lecture 58 - Quick tour of amplifying devices
- Lecture 59 - Controlled sources using a MOS transistor-Introduction
- Lecture 60 - Voltage controlled voltage source
- Lecture 61 - VCVS using a MOS transistor
- Lecture 62 - VCVS using a MOS transistor-Small signal picture
- Lecture 63 - VCVS using a MOS transistor-Complete circuit
- Lecture 64 - Source follower
- Lecture 65 - VCCS using a MOS transistor
- Lecture 66 - VCCS using a MOS transistor
- Lecture 67 - VCCS using a MOS transistor
- Lecture 68 - VCCS using a MOS transistor

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

www.digimat.in

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

- Lecture 69 - Source degenerated CS amplifier
- Lecture 70 - CCCS using a MOS transistor
- Lecture 71 - CCCS using a MOS transistor
- Lecture 72 - CCCS using a MOS transistor
- Lecture 73 - C CVS using a MOS transistor
- Lecture 74 - C CVS using a MOS transistor
- Lecture 75 - C CVS using a MOS transistor
- Lecture 76 - C CVS using a MOS transistor
- Lecture 77 - V CVS using an opamp
- Lecture 78 - C CVS using an opamp
- Lecture 79 - Negative feedback and virtual short in an opamp
- Lecture 80 - Negative feedback and virtual short in a transistor
- Lecture 81 - Constraints on controlled sources using opamps and transistors
- Lecture 82 - Summary of basic amplifiers
- Lecture 83 - Signal swing limits in amplifiers
- Lecture 84 - Swing limit due to transistor entering triode region
- Lecture 85 - Swing limit due to transistor entering cutoff region
- Lecture 86 - Swing limit calculation example
- Lecture 87 - Swing limits - more calculations
- Lecture 88 - pMOS transistor
- Lecture 89 - Small signal model of the pMOS transistor
- Lecture 90 - Common source amplifier using the pMOS transistor
- Lecture 91 - Swing limits of the pMOS common source amplifier
- Lecture 92 - Biasing a pMOS transistor at a constant current; pMOS current mirror
- Lecture 93 - Converting nMOS transistor circuits to pMOS
- Lecture 94 - Bias current generation
- Lecture 95 - Examples of more than one transistor in feedback

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

NPTEL Video Course - Electrical Engineering - NOC:Introduction to Non Linear Dynamics

Subject Co-ordinator - Prof. Gaurav Raina

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - A brief introduction to modelling
Lecture 2 - Dynamics and Nonlinear systems
Lecture 3 - 1-Dimensional Flows, Flows on the Line, Lecture 1
Lecture 4 - 1-Dimensional Flows, Flows on the Line, Lecture 2
Lecture 5 - 1-Dimensional Flows, Flows on the Line, Lecture 3
Lecture 6 - 1-Dimensional Flows, Flows on the Line, Lecture 4
Lecture 7 - 1-Dimensional Flows, Flows on the Line, Lecture 5
Lecture 8 - 1-Dimensional Flows, Flows on the Line, Lecture 6
Lecture 9 - 1-Dimensional Flows, Bifurcations, Lecture 1
Lecture 10 - 1-Dimensional Flows, Bifurcations, Lecture 2
Lecture 11 - 1-Dimensional Flows, Bifurcations, Lecture 3
Lecture 12 - 1-Dimensional Flows, Bifurcations, Lecture 4
Lecture 13 - 1-Dimensional Flows, Bifurcations, Lecture 5
Lecture 14 - 1-Dimensional Flows, Bifurcations, Lecture 6
Lecture 15 - 1-Dimensional Flows, Flows on the Circle, Lecture 1
Lecture 16 - 1-Dimensional Flows, Flows on the Circle, Lecture 2
Lecture 17 - 2-Dimensional Flows, Linear Systems, Lecture 1
Lecture 18 - 2-Dimensional Flows, Linear Systems, Lecture 2
Lecture 19 - 2-Dimensional Flows, Linear Systems, Lecture 3
Lecture 20 - 2-Dimensional Flows, Linear Systems, Lecture 4
Lecture 21 - 2-Dimensional Flows, Phase Plane, Lecture 1
Lecture 22 - 2-Dimensional Flows, Phase Plane, Lecture 2
Lecture 23 - 2-Dimensional Flows, Phase Plane, Lecture 3
Lecture 24 - 2-Dimensional Flows, Limit Cycles, Lecture 1
Lecture 25 - 2-Dimensional Flows, Limit Cycles, Lecture 2
Lecture 26 - 2-Dimensional Flows, Limit Cycles, Lecture 3
Lecture 27 - 2-Dimensional Flows, Bifurcations, Lecture 1
Lecture 28 - 2-Dimensional Flows, Bifurcations, Lecture 2
Lecture 29 - 2-Dimensional Flows, Bifurcations, Lecture 3

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

www.digimat.in

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

NPTEL Video Course - Electrical Engineering - NOC:Control Engineering

Subject Co-ordinator - Prof. Ramkrishna.P

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction to Systems and Control

Lecture 2 - Modelling of Systems

Lecture 3 - Elements of Modelling

Lecture 4 - Examples of Modelling

Lecture 5 - Solving Problems in Modelling of Systems

Lecture 6 - Laplace Transforms

Lecture 7 - Inverse Laplace Transforms

Lecture 8 - Transfer Function of Modelling Block Diagram Representation

Lecture 9 - Solving Problems on Laplace Transforms and Transfer Functions

Lecture 10 - Block Diagram Reduction, Signal Flow Graphs

Lecture 11 - Solving Problems on Block Diagram Reduction, Signal Flow Graphs

Lecture 12 - Time Response Analyzsis of systems

Lecture 13 - Time Response specifications

Lecture 14 - Solving Problems on Time Response Analyzsis ans specifications

Lecture 15 - Stability

Lecture 16 - Routh Hurwitz Criterion

Lecture 17 - Routh Hurwitz Criterion T 1

Lecture 18 - Closed loop System and Stability

Lecture 19 - Root Locus Technique

Lecture 20 - Root Locus Plots

Lecture 21 - Root Locus Plots (Continued...)

Lecture 22 - Root Locus Plots (Continued...)

Lecture 23 - Root Locus Plots (Continued...)

Lecture 24 - Introduction to Frequency Response

Lecture 25 - Frequency Response Plots

Lecture 26 - Relative Stability

Lecture 27 - Bode plots

Lecture 28 - Basics of Control design Proportional, Integral and Derivative Actions

Lecture 29 - Basics of Control design Proportional, Integral and Derivative Actions

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

www.digimat.in

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

- Lecture 30 - Problems on PID Controllers
- Lecture 31 - Basics of Control design Proportional, Integral and Derivative Actions
- Lecture 32 - Control design in time domain and discusses the lead compensator
- Lecture 33 - Improvement of the Transient Response using lead compensation
- Lecture 34 - Design of control using lag compensators
- Lecture 35 - The design of Lead-Lag compensators using root locus
- Lecture 36 - Introduction design of control in frequency domain
- Lecture 37 - Design of Lead Compensator using Bode Plots
- Lecture 38 - Design of Lag Compensators using Bode Plots
- Lecture 39 - Design of Lead-Lag Compensators using Bode plots
- Lecture 40 - Experimental Determination of Transfer Function
- Lecture 41 - Effect of Zeros on System Response
- Lecture 42 - Navigation - Stories and Some Basics
- Lecture 43 - Navigation - Dead Reckoning and Reference Frames
- Lecture 44 - Inertial Sensors and Their Characteristics
- Lecture 45 - Filter Design to Attenuate Inertial Sensor Noise
- Lecture 46 - Complementary Filter
- Lecture 47 - Complementary Filter - 1
- Lecture 48 - Introduction to State Space Systems
- Lecture 49 - Linearization of State Space Dynamics
- Lecture 50 - Linearization of State Space Dynamics - 1
- Lecture 51 - Controllability and Observability

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

NPTEL Video Course - Electronics and Communication Engineering - NOC:Analog IC Design

Subject Co-ordinator - Prof. S. Aniruddhan

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction to MOSFETs
Lecture 2 - Simple MOSFET Circuits
Lecture 3 - MOSFET Current Mirrors
Lecture 4 - Cascode Amplifiers
Lecture 5 - MOSFET in Integrated Circuits
Lecture 6 - MOSFET Capacitances
Lecture 7 - Noise
Lecture 8 - Noise of Simple Circuits
Lecture 9 - Systematic Mismatch
Lecture 10 - Random Mismatch
Lecture 11 - Differential Amplifiers
Lecture 12 - Negative Feedback
Lecture 13 - Stability of Negative Feedback Systems
Lecture 14 - Dominant Pole Compensation
Lecture 15 - Active Load
Lecture 16 - One Stage OpAmps - 1
Lecture 17 - One Stage OpAmps - 2
Lecture 18 - One Stage OpAmps - 3
Lecture 19 - Differential Amplifiers Offset
Lecture 20 - One Stage OpAmps - Noise and Offset
Lecture 21 - One Stage OpAmps - Slew Rate
Lecture 22 - One Stage OpAmps - Datasheet
Lecture 23 - One Stage OpAmps - Example 1
Lecture 24 - One Stage OpAmps - Example 2
Lecture 25 - Telescopic OpAmp - 1
Lecture 26 - Telescopic OpAmp - 2
Lecture 27 - Telescopic OpAmp - 3
Lecture 28 - Telescopic OpAmp - 4
Lecture 29 - Telescopic OpAmp - 5

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

www.digimat.in

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

- Lecture 30 - Telescopic OpAmp - Datasheet
- Lecture 31 - Telescopic OpAmp - Design Example
- Lecture 32 - Folded-Cascode OpAmp - 1
- Lecture 33 - Folded-Cascode OpAmp - 2
- Lecture 34 - Folded-Cascode OpAmp - 3
- Lecture 35 - Folded-Cascode OpAmp - 4
- Lecture 36 - Folded-Cascode OpAmp - 5
- Lecture 37 - Negative feedback amplifier
- Lecture 38 - Step response, sinusoidal steady state response
- Lecture 39 - Loop gain and unity loop gain frequency; Opamp
- Lecture 40 - Opamp realization using controlled sources; Delay in the loop
- Lecture 41 - Negative feedback amplifier with ideal delay-small delays
- Lecture 42 - Negative feedback amplifier with ideal delay-large delays
- Lecture 43 - Negative feedback amplifier with parasitic poles and zeros
- Lecture 44 - Negative feedback amplifier with parasitic poles and zeros; Nyquist criterion
- Lecture 45 - Nyquist criterion; Phase margin
- Lecture 46 - Phase margin
- Lecture 47 - Single stage opamp realization
- Lecture 48 - Two stage miller compensated opamp
- Lecture 49 - Two stage miller compensated opamp.
- Lecture 50 - Two and three stage miller compensated opamps; Feedforward compensated opamp
- Lecture 51 - Two Stage Opamp
- Lecture 52 - Two Stage Opamp ; Three Stage and Triple Cascade Opamps
- Lecture 53 - Common Mode Rejection Ratio ; Example
- Lecture 54 - Fully differential single stage opamp
- Lecture 55 - Common mode feedback
- Lecture 56 - Fully differential single stage opamp-2
- Lecture 57 - Fully differential two stage opamp; Fully differential versus pseudo-differential

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

NPTEL Video Course - Electrical Engineering - NOC:Probability Foundations for Electrical Engineers

Subject Co-ordinator - Prof. R.Aravind, Dr. Andrew Thangaraj

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Experiments, Outcomes and Events

Lecture 2 - Examples

Lecture 3 - Operations on Events

Lecture 4 - Examples

Lecture 5 - Sigma Fields and Probability

Lecture 6 - Discrete Sample Spaces

Lecture 7 - Union and Partition

Lecture 8 - Examples

Lecture 9 - Definition and Basic Properties

Lecture 10 - Bayes' Rule for Partitions

Lecture 11 - Examples

Lecture 12 - Example of Detection

Lecture 13 - Example

Lecture 14 - Independence of Events

Lecture 15 - Examples

Lecture 16 - Combining Independent Experiments

Lecture 17 - Conditional Independence

Lecture 18 - Examples and Computations with Conditional Independence

Lecture 19 - Binomial and Geometric Models

Lecture 20 - Examples

Lecture 21 - Definition and Discrete Setting

Lecture 22 - Random Variables and Events

Lecture 23 - Examples

Lecture 24 - Important distributions

Lecture 25 - Examples

Lecture 26 - Real-life modeling example

Lecture 27 - More Distributions

Lecture 28 - Conditional PMFs, Conditioning on an event, Indicator random variables

Lecture 29 - Example

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

www.digimat.in

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

- Lecture 30 - Multiple random variables and joint distribution
- Lecture 31 - Example
- Lecture 32 - Marginal PMF
- Lecture 33 - Trinomial joint PMF
- Lecture 34 - Events and Conditioning with Two Random Variables
- Lecture 35 - Example
- Lecture 36 - Independent random variables
- Lecture 37 - More on independence
- Lecture 38 - Example
- Lecture 39 - Addition of Random Variables
- Lecture 40 - Sum, Difference and Max of Two Random Variables
- Lecture 41 - More Computations
- Lecture 42 - Example
- Lecture 43 - Real line as sample space
- Lecture 44 - Probability density function (pdf)
- Lecture 45 - Cumulative distribution function (CDF)
- Lecture 46 - Continuous random variables
- Lecture 47 - pdf and CDF of continuous random variables
- Lecture 48 - Spinning pointer example
- Lecture 49 - Important continuous distributions
- Lecture 50 - More continuous distributions
- Lecture 51 - Two-dimensional real sample space
- Lecture 52 - Joint pdf and joint CDF
- Lecture 53 - More on assigning probability to regions of x-y plain
- Lecture 54 - Darts example and marginal pdfs
- Lecture 55 - Independence to two continuous random variables
- Lecture 56 - Examples
- Lecture 57 - Prob[$X > Y$]
- Lecture 58 - Transformations of random variables
- Lecture 59 - CDF method
- Lecture 60 - pdf method
- Lecture 61 - Examples
- Lecture 62 - One-to-one transformations
- Lecture 63 - Expected Value or Mean of a Random Variable
- Lecture 64 - Properties of Expectation
- Lecture 65 - Expectation Computations for Important Distributions
- Lecture 66 - Variance
- Lecture 67 - Examples of Variance
- Lecture 68 - Expectations with Two Random Variables

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

www.digimat.in

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

- Lecture 69 - Correlation and Covariance
- Lecture 70 - Examples
- Lecture 71 - Examples
- Lecture 72 - Examples
- Lecture 73 - Live Session

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

NPTEL Video Course - Electrical Engineering - NOC:Optimal Control

Subject Co-ordinator - Prof. Barjeev Tyagi

Co-ordinating Institute - IIT - Roorkee

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

- Lecture 1 - Introduction and Performance Index
- Lecture 2 - Basic Concepts of Calculus of Variation
- Lecture 3 - The Basic Variational Problem
- Lecture 4 - Fixed End Point Problem
- Lecture 5 - Free End Point Problem
- Lecture 6 - Free End Point Problem (Continued...)
- Lecture 7 - Free End Point Problem (Continued...)
- Lecture 8 - Free End Point Problem (Continued...)
- Lecture 9 - Optimum of Functions with Conditions
- Lecture 10 - Optimum of Functions with Conditions (Lagrange Multiplier Method)
- Lecture 11 - Optimum of Functional with Conditions
- Lecture 12 - Variational Approach to Optimal Control Systems
- Lecture 13 - Variational Approach to Optimal Control Systems (Continued...)
- Lecture 14 - Linear Quadratic Optimal Control Systems
- Lecture 15 - Linear Quadratic Optimal Control Systems (Continued...)
- Lecture 16 - Linear Quadratic Optimal Control Systems (Continued...)
- Lecture 17 - Linear Quadratic Optimal Control Systems (Continued...)
- Lecture 18 - Linear Quadratic Optimal Control Systems (Continued...)
- Lecture 19 - Linear Quadratic Optimal Control Systems (Optimal Value of Performance Index)
- Lecture 20 - Infinite Horizon Regulator Problem
- Lecture 21 - Infinite Horizon Regulator Problem (Continued...)
- Lecture 22 - Analytical Solution of MDRE - State Transition Matrix Approach
- Lecture 23 - Analytical Solution of MDRE - Similarity Transformation Approach
- Lecture 24 - Analytical Solution of MDRE - Similarity Transformation Approach (Continued...)
- Lecture 25 - Frequency Domain Interpretation of LQR - Linear Time Invariant System
- Lecture 26 - Frequency Domain Interpretation of LQR - Linear Time Invariant System (Continued...)
- Lecture 27 - LQR with a Specified Degree of Stability
- Lecture 28 - Inverse Matrix Riccati Equation
- Lecture 29 - Linear Quadratic Tracking System

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

www.digimat.in

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

- Lecture 30 - Discrete-Time Optimal Control Systems
- Lecture 31 - Discrete-Time Optimal Control Systems (Continued...)
- Lecture 32 - Discrete-Time Optimal Control Systems (Continued...)
- Lecture 33 - Matrix Discrete Riccati Equation
- Lecture 34 - Analytical Solution of Matrix Difference Riccati Equation
- Lecture 35 - Analytical Solution of Matrix Difference Riccati Equation (Continued...)
- Lecture 36 - Optimal Control using Dynamic Programming
- Lecture 37 - The Hamilton-Jacobi-Bellman (HJB) Equation
- Lecture 38 - LQR System Using HJB Equation
- Lecture 39 - Time Optimal Control System - Constrained Input
- Lecture 40 - Time Optimal Control System (Continued...)

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

NPTEL Video Course - Electronics and Communication Engineering - NOC:Basics of Software Defined Radios and Pr

Subject Co-ordinator - Dr. Meenakshi Rawat

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Foundation for software defined radio

Lecture 2 - Components of a software defined radio

Lecture 3 - Software defined radio architectures - Part I

Lecture 4 - Software defined radio architectures - Part II

Lecture 5 - Software defined radio architectures - Part III

Lecture 6 - Software defined radio architectures - Part IV

Lecture 7 - Distortion Parameters - Part I

Lecture 8 - Distortion Parameters - Part II

Lecture 9 - Distortion Parameters

Lecture 10 - Distortion Parameters

Lecture 11 - Power Amplifiers

Lecture 12 - Power Amplifiers

Lecture 13 - Case study-I

Lecture 14 - Case study-II

Lecture 15 - Behavioral models for representing nonlinear distortions

Lecture 16 - Linearization Techniques for nonlinear distortion

Lecture 17 - Predistortion Techniques for nonlinearity distortion in SDR

Lecture 18 - Basic Digital Predistortion Techniques for nonlinear distortion in SDR

Lecture 19 - State-of-the-art Digital Predistortion Techniques for Nonlinear Distortion in SDR

Lecture 20 - Digital Predistortion Techniques for Linear as well as Nonlinear Distortion in SDR

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

www.digimat.in

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

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

Subject Co-ordinator - 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
- 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

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

www.digimat.in

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

- 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
- 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
- Lecture 37 - Direct Approach for Short-Circuit Analysis
- Lecture 38 - Direct Approach for Short-Circuit Analysis
- Lecture 39 - Direct Approach for Short-Circuit Analysis
- Lecture 40 - Applications of Distribution System Analysis

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

NPTEL Video Course - Electrical Engineering - NOC:Introduction to Smart Grid

Subject Co-ordinator - Prof. Premalata Jena, Prof. N.P. Padhy

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction to Smart Grid - I
Lecture 2 - Introduction to Smart Grid - II
Lecture 3 - Architecture of smart grid system
Lecture 4 - Standards for smart grid system
Lecture 5 - Elements and Technologies of smart grid system - I
Lecture 6 - Elements and Technologies of smart grid system - II
Lecture 7 - Distributed Generation Resources - I
Lecture 8 - Distributed Generation Resources - II
Lecture 9 - Distributed Generation Resources - III
Lecture 10 - Distributed Generation Resources - IV
Lecture 11 - Wide Area Monitoring System - I
Lecture 12 - Wide Area Monitoring System - II
Lecture 13 - Phasor Estimation - I
Lecture 14 - Phasor Estimation - II
Lecture 15 - Digital Relays for Smart Grid Protection
Lecture 16 - Islanding Detection Techniques - I
Lecture 17 - Islanding Detection Techniques - II
Lecture 18 - Islanding Detection Techniques - III
Lecture 19 - Smart Grid Protection - I
Lecture 20 - Smart Grid Protection - II
Lecture 21 - Smart Grid Protection - III
Lecture 22 - Smart Grid Protection - IV
Lecture 23 - Modelling of Storage Devices
Lecture 24 - Modelling of DC Smart Grid Components
Lecture 25 - Operation and Control of AC Microgrid - I
Lecture 26 - Operation and Control of AC Microgrid - II
Lecture 27 - Operation and Control of DC Microgrid - I
Lecture 28 - Operation and Control of DC Microgrid - II
Lecture 29 - Operation and Control of AC-DC hybrid Microgrid - I

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

www.digimat.in

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

- Lecture 30 - Operation and Control of AC-DC hybrid Microgrid - II
- Lecture 31 - Simulation and Case Study of AC Microgrid
- Lecture 32 - Simulation and Case Study of DC Microgrid
- Lecture 33 - Simulation and Case Study of AC-DC Hybrid Microgrid
- Lecture 34 - Demand Side Management in Smart Grid
- Lecture 35 - Demand Response Analysis of Smart Grid
- Lecture 36 - Energy Management
- Lecture 37 - Design of Smart Grid and Practical Smart Grid Case Study - I
- Lecture 38 - Design of Smart Grid and Practical Smart Grid Case Study - II
- Lecture 39 - System Analysis of AC/DC Smart Grid
- Lecture 40 - Conclusions

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

NPTEL Video Course - Electrical Engineering - NOC:Facts Devices

Subject Co-ordinator - Prof. Avik Bhattacharya

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction - I
Lecture 2 - Introduction - II
Lecture 3 - Switch Realization
Lecture 4 - PWM - I
Lecture 5 - PWM - II
Lecture 6 - Closed Loop Control
Lecture 7 - Multi Level Inverter - I
Lecture 8 - Multi Level Inverter - II
Lecture 9 - Multi Level Inverter - III
Lecture 10 - Shunt Compensator Analysis
Lecture 11 - Shunt Compensator TCR and TSC - I
Lecture 12 - Shunt Compensator TCR and TSC - II
Lecture 13 - Static Var Compensator - I
Lecture 14 - Static Var Compensator - II
Lecture 15 - STATCOM - I
Lecture 16 - STATCOM - II
Lecture 17 - STATCOM/SVC Comparisons
Lecture 18 - External Control Design of Static Var Compensator
Lecture 19 - DSTATCOM
Lecture 20 - Design of DSTATCOM
Lecture 21 - Series Compensator - I
Lecture 22 - Series Compensator - II
Lecture 23 - GCSC and SSSC
Lecture 24 - SSSC - II
Lecture 25 - SSSC - III and TSSC
Lecture 26 - TSSC - II and TCSC
Lecture 27 - TCSC Characteristics and Control
Lecture 28 - Voltage and Phase Angle Regulation
Lecture 29 - Voltage and Phase Angle Regulator Device - I

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

www.digimat.in

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

- Lecture 30 - Voltage and Phase Angle Regulator Device - II
- Lecture 31 - UPQC Introduction and Classification
- Lecture 32 - UPQC Classification - I
- Lecture 33 - Operation and Control of UPQC - II
- Lecture 34 - Operation and Control of UPQC - III
- Lecture 35 - UPFC
- Lecture 36 - Control Structure of UPFC
- Lecture 37 - Comparison of UPFC with PAR and Series Compensators
- Lecture 38 - Interline Power Flow Controller (IPFC) - I
- Lecture 39 - Interline Power Flow Controller (IPFC) - II
- Lecture 40 - Practical Application and Conclusion

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

NPTEL Video Course - Electrical Engineering - NOC:Advanced Linear Continuous Control Systems: Applications wi

Subject Co-ordinator - Prof. Yogesh Vijay Hote

Co-ordinating Institute - IIT - Roorkee

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

- Lecture 1 - Introduction to State Space
- Lecture 2 - State Space Representation
- Lecture 3 - State Space Representation
- Lecture 4 - State Space Representation
- Lecture 5 - State Space Representation
- Lecture 6 - State Space Representation
- Lecture 7 - State Space Representation
- Lecture 8 - State Space Representation
- Lecture 9 - State Space Representation
- Lecture 10 - State Space Representation
- Lecture 11 - Modelling of Mechanical Systems in State Space
- Lecture 12 - Modelling of DC Servo Motor - Part I
- Lecture 13 - Modelling of DC Servo Motor - Part II
- Lecture 14 - Determination of Transfer Function from State Space Model - Part I
- Lecture 15 - Determination of Transfer Function from State Space Model - Part II
- Lecture 16 - Stability Analysis in State Space
- Lecture 17 - Stability Analysis in State Space - Part II
- Lecture 18 - Stability Analysis in State Space
- Lecture 19 - Stability Analysis in State Space
- Lecture 20 - Stability Analysis in State Space
- Lecture 21 - Concept of Diagonalization
- Lecture 22 - Solution of State Equation
- Lecture 23 - Solution of State Equation (Forced System)
- Lecture 24 - Steady State Error for State Space System
- Lecture 25 - State Transition Matrix - Part I
- Lecture 26 - State Transition Matrix - Part II
- Lecture 27 - State Transition Matrix using Cayley-Hamilton Theorem - Part III
- Lecture 28 - MATLAB Programming with State Space
- Lecture 29 - Controllability in State Space - Part I

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

www.digimat.in

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

- Lecture 30 - Controllability in State Space - Part II
- Lecture 31 - Observability in State Space - Part I
- Lecture 32 - Observability in State Space - Part II
- Lecture 33 - Pole Placement by State Feedback - Part I
- Lecture 34 - Pole Placement by State Feedback - Part II
- Lecture 35 - Pole Placement by State Feedback - Part III
- Lecture 36 - Tracking Problem in State Feedback Design - Part I
- Lecture 37 - Tracking Problem in State Feedback Design - Part II
- Lecture 38 - State Observer Design - Part I
- Lecture 39 - State Observer Design - Part II
- Lecture 40 - State Observer Design - Part III

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

NPTEL Video Course - Electrical Engineering - An Introduction to Electronics Systems Packaging

Subject Co-ordinator - Prof. G.V. Mahesh

Co-ordinating Institute - IISc - Bangalore

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

- Lecture 1 - Introduction and Objectives of the course
- Lecture 2 - Definition of a system and history of semiconductors
- Lecture 3 - Products and levels of packaging
- Lecture 4 - Packaging aspects of handheld products; Case studies in applications
- Lecture 5 - Case Study (continued); Definition of PWB, summary and Questions for review
- Lecture 6 - Basics of Semiconductor and Process flowchart; Video on "Sand-to-Silicon"
- Lecture 7 - Wafer fabrication, inspection and testing
- Lecture 8 - Wafer packaging; Packaging evolution; Chip connection choices
- Lecture 9 - Wire bonding, TAB and flipchip-1
- Lecture 10 - Wire bonding, TAB and flipchip-2; Tutorials
- Lecture 11 - Why packaging? & Single chip packages or modules (SCM)
- Lecture 12 - Commonly used packages and advanced packages; Materials in packages
- Lecture 13 - Advances packages (continued); Thermal mismatch in packages; Current trends in packaging
- Lecture 14 - Multichip modules (MCM)-types; System-in-package (SIP); Packaging roadmaps; Hybrid circuits; QFN
- Lecture 15 - Electrical Issues I; Resistive Parasitic
- Lecture 16 - Electrical Issues II; Capacitive and Inductive Parasitic
- Lecture 17 - Electrical Issues III; Layout guidelines and the Reflection problem
- Lecture 18 - Electrical Issues IV; Interconnection
- Lecture 19 - Quick Tutorial on packages; Benefits from CAD; Introduction to DFM, DFR & DFT
- Lecture 20 - Components of a CAD package and its highlights
- Lecture 21 - Design Flow considerations; Beginning a circuit design with schematic work and component layout
- Lecture 22 - Demo and examples of layout and routing; Technology file generation from CAD; DFM check list and
- Lecture 23 - Review of CAD output files for PCB fabrication; Photo plotting and mask generation
- Lecture 24 - Process flow-chart; Vias; PWB substrates
- Lecture 25 - Substrates continued; Video highlights; Surface preparation
- Lecture 26 - Photoresist and application methods; UV exposure and developing; Printing technologies for PWBs
- Lecture 27 - PWB etching; Resist stripping; Screen-printing technology
- Lecture 28 - Through-hole manufacture process steps; Panel and pattern plating methods
- Lecture 29 - Video highlights on manufacturing; Solder mask for PWBs; Multilayer PWBs; Introduction to micro

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

www.digimat.in

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

- Lecture 30 - Microvia technology and Sequential build-up technology process flow for high-density interconnect
- Lecture 31 - Conventional Vs HDI technologies; Flexible circuits; Tutorial session
- Lecture 32 - SMD benefits; Design issues; Introduction to soldering
- Lecture 33 - Reflow and Wave Soldering methods to attach SMDs
- Lecture 34 - Solders; Wetting of solders; Flux and its properties; Defects in wave soldering
- Lecture 35 - Vapour phase soldering, BGA soldering and Desoldering/Repair; SMT failures
- Lecture 36 - SMT failure library and Tin Whiskers
- Lecture 37 - Tin-lead and lead-free solders; Phase diagrams; Thermal profiles for reflow soldering; Lead-free
- Lecture 38 - Lead-free solder considerations; Green electronics; RoHS compliance and e-waste recycling issues
- Lecture 39 - Thermal Design considerations in systems packaging
- Lecture 40 - Introduction to embedded passives; Need for embedded passives; Design Library; Embedded resistor
- Lecture 41 - Embedded capacitors; Processes for embedding capacitors; Case study examples; Summary of materia
- Lecture 42 - Chapter-wise summary

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

NPTEL Video Course - Electrical Engineering - Power Electronics and Distributed Generation

Subject Co-ordinator - Dr. Vinod John

Co-ordinating Institute - IISc - Bangalore

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

- Lecture 1 - Course introduction and overview
- Lecture 2 - Distributed generation technologies
- Lecture 3 - Distributed storage technologies
- Lecture 4 - Distribution system protection
- Lecture 5 - Circuit breaker coordination
- Lecture 6 - Symmetrical component analysis and sequence excitation
- Lecture 7 - Modeling of distribution system components
- Lecture 8 - Protection components
- Lecture 9 - Impact of distributed generation on distribution protection
- Lecture 10 - Consumption and distribution grounding
- Lecture 11 - Islanding of distribution systems
- Lecture 12 - Modeling of islanded distribution systems
- Lecture 13 - Distribution system problems and examples
- Lecture 14 - Distribution system problems and examples continued
- Lecture 15 - Anti-islanding methods
- Lecture 16 - Solid state circuit switching
- Lecture 17 - Relaying for distributed generation
- Lecture 18 - Feeder voltage regulation
- Lecture 19 - Grounding, distribution protection coordination problems and examples
- Lecture 20 - Ring and network distribution
- Lecture 21 - Economic evaluation of DG systems
- Lecture 22 - Design for effective initial cost
- Lecture 23 - Single phase inverters
- Lecture 24 - DC bus design in voltage source inverter
- Lecture 25 - Electrolytic capacitor reliability and lifetime
- Lecture 26 - Inverter switching and average model
- Lecture 27 - Common mode and differential mode model of inverters
- Lecture 28 - Two leg single phase inverter
- Lecture 29 - Distribution system problems, and examples

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

www.digimat.in

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

- Lecture 30 - DG evaluation problems and examples
- Lecture 31 - Switch selection in two level voltage source inverters and loss evaluation
- Lecture 32 - Thermal model, management and cycling failure of IGBT modules
- Lecture 33 - Semiconductor switch design reliability considerations
- Lecture 34 - AC filters for grid connected inverters
- Lecture 35 - AC inductor design and need for LCL filter
- Lecture 36 - LCL filter design
- Lecture 37 - Examples in power electronic design for DG systems
- Lecture 38 - Examples in power electronic design for DG systems continued
- Lecture 39 - Higher order passive damping design for LCL filters
- Lecture 40 - Balance of hardware component for inverters in DG systems

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

NPTEL Video Course - Electrical Engineering - Pulse width Modulation for Power Electronic Converters

Subject Co-ordinator - Dr. G. Narayanan

Co-ordinating Institute - IISc - Bangalore

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

- Lecture 1 - Electronic switches
- Lecture 2 - DC - DC converters
- Lecture 3 - DC - AC converters
- Lecture 4 - Multilevel converters - I
- Lecture 5 - Multilevel converters - II
- Lecture 6 - Applications of voltage source converter - I
- Lecture 7 - Applications of voltage source converter - II
- Lecture 8 - Applications of voltage source converter - III
- Lecture 9 - Purpose of PWM - I
- Lecture 10 - Purpose of PWM - II
- Lecture 11 - Low switching frequency PWM - I
- Lecture 12 - Low switching frequency PWM - II
- Lecture 13 - Selective harmonic elimination
- Lecture 14 - Off-line optimized pulsewidth modulation
- Lecture 15 - Sine-triangle pulsewidth modulation
- Lecture 16 - Harmonic injection pulsewidth modulation
- Lecture 17 - Bus-clamping pulsewidth modulation
- Lecture 18 - Triangle-comparison based PWM for three-phase inverter
- Lecture 19 - Concept of space vector
- Lecture 20 - Conventional space vector PWM
- Lecture 21 - Space vector based bus-clamping PWM
- Lecture 22 - Space vector based advanced bus-clamping PWM
- Lecture 23 - Harmonic analysis of PWM techniques
- Lecture 24 - Analysis of RMS line current ripple using the notion of stator flux ripple
- Lecture 25 - Evaluation of RMS line current ripple using the notion of stator flux ripple
- Lecture 26 - Analysis and design of PWM techniques from line current ripple perspective
- Lecture 27 - Instantaneous and average dc link current in a voltage source inverter
- Lecture 28 - DC link current and DC capacitor current in a voltage source inverter
- Lecture 29 - Analysis of torque ripple in induction motor drives - I

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

www.digimat.in

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

- Lecture 30 - Analysis of torque ripple in induction motor drives - II
- Lecture 31 - Evaluation of conduction loss in three-phase inverter
- Lecture 32 - Evaluation of switching loss in three-phase inverter
- Lecture 33 - Design of PWM for reduced switching loss in three-phase inverter
- Lecture 34 - Effect of dead-time on inverter output voltage for continuous PWM schemes
- Lecture 35 - Effect of dead-time on inverter output voltage for bus-clamping PWM schemes
- Lecture 36 - Analysis of overmodulation in sine-triangle PWM from space vector perspective
- Lecture 37 - Overmodulation in space vector modulated inverter
- Lecture 38 - PWM for three-level neutral-point-clamped inverter - I
- Lecture 39 - PWM for three-level neutral-point-clamped inverter - II
- Lecture 40 - PWM for three-level neutral-point-clamped inverter - III

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

NPTEL Video Course - Electrical Engineering - Switched Mode Power Conversion

Subject Co-ordinator - Prof. L. Umanand, Prof. V. Ramanarayanan

Co-ordinating Institute - IISc - Bangalore

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

Lecture 1 - Introduction to DC-DC converter
Lecture 2 - Diode
Lecture 3 - Controlled Switches
Lecture 4 - Prior Art
Lecture 5 - Inductor
Lecture 6 - Transformer
Lecture 7 - Capacitor
Lecture 8 - Issues related to switches
Lecture 9 - Energy storage - Capacitor
Lecture 10 - Energy storage - Inductor
Lecture 11 - Primitive Converter
Lecture 12 - Non-Isolated converter - I
Lecture 13 - Non-Isolated converter - II
Lecture 14 - Isolated Converters - I
Lecture 15 - Isolated Converters - II
Lecture 16 - Conduction Mode
Lecture 17 - Problem set - I
Lecture 18 - Problem set - II
Lecture 19 - Modeling DC-DC converters
Lecture 20 - State space representation - I
Lecture 21 - State Space representation - II
Lecture 22 - Circuit Averaging - I
Lecture 23 - Circuit Averaging - II
Lecture 24 - State Space Model of Boost Converter
Lecture 25 - DC-DC converter controller
Lecture 26 - Controller Structure
Lecture 27 - PID Controller - I
Lecture 28 - PID Controller - II
Lecture 29 - PID Controller - III

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

www.digimat.in

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

- Lecture 30 - Implementation of PID controller
- Lecture 31 - Pulse Width Modulator
- Lecture 32 - Controller Design - I
- Lecture 33 - Controller Design - II
- Lecture 34 - Controllers and Sensing Circuit
- Lecture 35 - Regulation of Multiple outputs - I
- Lecture 36 - Regulation of Multiple outputs - II
- Lecture 37 - Current Control
- Lecture 38 - Unity Power Factor Converter
- Lecture 39 - Magnetic Design
- Lecture 40 - DC-DC Converter Design

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

NPTEL Video Course - Electrical Engineering - Basic Electrical Technology

Subject Co-ordinator - Prof. L. Umanand

Co-ordinating Institute - IISc - Bangalore

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

Lecture 1 - Basic Electrical Technology
Lecture 2 - Passive Components
Lecture 3 - Sources
Lecture 4 - Kirchoff's Law
Lecture 5 - Modelling of Circuit - Part 1
Lecture 6 - Modelling of Circuit - Part 2
Lecture 7 - Analysis Using MatLab
Lecture 8 - Sinusoidal steady state
Lecture 9 - Transfer Function and Pole Zero domain
Lecture 10 - Transfer function & pole zero
Lecture 11 - The Sinusoid
Lecture 12 - Phasor Analysis - Part 1
Lecture 13 - Phasor Analysis - Part 2
Lecture 14 - Power Factor
Lecture 15 - Power ports
Lecture 16 - Transformer Basics - Part 1
Lecture 17 - Transformer Basics - Part 2
Lecture 18 - Transformer Basics - Part 3
Lecture 19 - The Practical Transformer - Part 1
Lecture 20 - The Practical Transformer - Part 2
Lecture 21 - The Practical Transformer - Part 3
Lecture 22 - DC Machines - Part 1
Lecture 23 - DC Machines - Part 2
Lecture 24 - DC Generators - Part 1
Lecture 25 - DC Generators - Part 2
Lecture 26 - DC Motors - Part 1
Lecture 27 - DC Motors - Part 2
Lecture 28 - DC Motors - Part 3
Lecture 29 - Three Phase System - Part 1

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

www.digimat.in

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

- Lecture 30 - Three Phase System - Part 2
- Lecture 31 - Three Phase System - Part 3
- Lecture 32 - Three Phase System - Part 4
- Lecture 33 - Three Phase Transformer - Part 1
- Lecture 34 - Three Phase Transformer - Part 2
- Lecture 35 - Induction Motor - Part 1
- Lecture 36 - Induction Motor - Part 2
- Lecture 37 - Induction Motor - Part 3
- Lecture 38 - Induction Motor - Part 4
- Lecture 39 - Synchronous Machine

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

NPTEL Video Course - Electrical Engineering - Industrial Drives - Power Electronics

Subject Co-ordinator - Prof. K. Gopakumar

Co-ordinating Institute - IISc - Bangalore

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

- Lecture 1 - Electric Drive
- Lecture 2 - Controlled Rectifier - Part-1
- Lecture 3 - Controlled Rectifier - Part-2 (Three phase)
- Lecture 4 - Controlled Rectifier - Part-3 (Three phase)
- Lecture 5 - Controlled Rectifier - Part-4 (Three Phase)
- Lecture 6 - Controlled Rectifier - Part-5 (Three Phase)
- Lecture 7 - Power Electronics Improvements
- Lecture 8 - Four Quadrant Dc to Dc Converter
- Lecture 9 - Sine Triangle PWM Control of Converter
- Lecture 10 - Front-end Ac-Dc Converter with harmonic control
- Lecture 11 - Ac to Dc Converter Close Loop Control Schematic
- Lecture 12 - Ac-Dc Converter Close loop Control Block Diagram
- Lecture 13 - Design of the Converter Controller & AC to DC
- Lecture 14 - Front-End Ac to Dc Converter-Design
- Lecture 15 - Front-End Ac to Dc Converter - Simulation study
- Lecture 16 - Dc Motor Speed Control - Introduction
- Lecture 17 - Dc Motor Speed Control - Block Diagram
- Lecture 18 - Dc Motor Speed Control Current Control & S C L
- Lecture 19 - Dc-Motor Speed Control Controller Design - Part-1
- Lecture 20 - Dc Motor Speed Control Controller Design - Part-2
- Lecture 21 - Dc Motor Speed Control Controller Design - Part-3
- Lecture 22 - Basics of DC to AC Converter - Part-1
- Lecture 23 - Basics of DC to AC Converter - Part-2
- Lecture 24 - Inverter Sine Triangle PWM
- Lecture 25 - Inverter - Current Hysteresis Controlled PWM
- Lecture 26 - C H controlled & Basics of space vector PWM
- Lecture 27 - Space Vector PWM - Part-2
- Lecture 28 - Space Vector PWM - Part-3
- Lecture 29 - Space Vector PWM Signal Generation

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

www.digimat.in

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

- Lecture 30 - Speed Control of Induction Motor - Part-1
- Lecture 31 - Speed Control of Induction Motor - Part-2
- Lecture 32 - High dynamic performance of I M Drive
- Lecture 33 - Dynamic Model of Induction Motor - Part-1
- Lecture 34 - Dynamic Model of Induction Motor - Part-2
- Lecture 35 - Vector Control of Induction Motor
- Lecture 36 - Effect of Switching Time lag in Inverter
- Lecture 37 - Power Switch Protection - Snubbers

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

NPTEL Video Course - Electrical Engineering - NOC:Design for Internet of Things

Subject Co-ordinator - Prof. T.V. Prabhakar

Co-ordinating Institute - IISc - Bangalore

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

- Lecture 1 - Introduction to IOTs - Part I
- Lecture 2 - Introduction to IOTs - Part II
- Lecture 3 - Introduction to IOTs - Examples
- Lecture 4 - IOT applications - I
- Lecture 5 - IOT applications - II
- Lecture 6 - Power management in IOT device
- Lecture 7 - Introduction to LDO
- Lecture 8 - Design with an LDO
- Lecture 9 - Introduction to switching regulators
- Lecture 10 - Designing with LDO's, switching regulators and case studies - Part I
- Lecture 11 - Designing with LDO's, switching regulators and case studies - Part II
- Lecture 12 - Designing with LDO's, switching regulators and case studies - Part II
- Lecture 13 - Designing with LDO's, switching regulators and case studies - Part IV
- Lecture 14 - Power Conditioning with Energy Harvesters - I
- Lecture 15 - Power Conditioning with Energy Harvesters - II
- Lecture 16 - Power Conditioning with Energy Harvesters - III
- Lecture 17 - Battery less power supply and battery life calculation for embedded devices - I
- Lecture 18 - Battery less power supply and battery life calculation for embedded devices - II
- Lecture 19 - Battery less power supply and battery life calculation for embedded devices - III
- Lecture 20 - Introduction to MQTT
- Lecture 21 - Quality of Service in MQTT
- Lecture 22 - Standards and Security in MQTT
- Lecture 23 - Introduction and Implementation of AMQP
- Lecture 24 - Implementation of CoAP and MDNS
- Lecture 25 - Basics of RFID
- Lecture 26 - RFID protocol and applications
- Lecture 27 - BLE Security
- Lecture 28 - LPWAN technologies
- Lecture 29 - Choice of Microcontrollers

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

www.digimat.in

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

Lecture 30 - Case Study 1 - Joule Jotter
Lecture 31 - Case Study 2 - Cloud Based Systems

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

NPTEL Video Course - Electrical Engineering - NOC:Advances in UHV Transmission and Distribution

Subject Co-ordinator - Prof Subba Reddy B

Co-ordinating Institute - IISc - Bangalore

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

- Lecture 1 - Advantages of HVAC/DC Transmission, Introduction to Grid Management
- Lecture 2 - Transmission system development, Important components of transmission system
- Lecture 3 - Insulation coordination, over voltage in power systems
- Lecture 4 - Design/selection of insulators, Importance of grading/cc rings
- Lecture 5 - Non ceramic insulators performance-service experience
- Lecture 6 - Failure of apparatus in the field, importance of reliability and testing
- Lecture 7 - Pollution flashover phenomena, modeling etc
- Lecture 8 - Planning of High Voltage laboratories
- Lecture 9 - Importance of High Voltage testing and techniques employed
- Lecture 10 - Basic philosophy of HV testing, tests for various HV apparatus
- Lecture 11 - HV testing techniques for various apparatus
- Lecture 12 - HV testing on Composite Insulators
- Lecture 13 - Surface degradation studies on composite insulators
- Lecture 14 - Surface morphological techniques for composite insulators
- Lecture 15 - Conductors used for EHV/UHV transmission
- Lecture 16 - Corona and interference on transmission lines
- Lecture 17 - Introduction of HTLS conductors and their advantages
- Lecture 18 - Mechanical considerations for HV conductors
- Lecture 19 - Introduction to Towers and importance of foundations
- Lecture 20 - Selection/Design of clearances for HV towers
- Lecture 21 - Design Optimization for UHV towers
- Lecture 22 - Introduction to 1100kV HVDC
- Lecture 23 - Introduction to HV Substations
- Lecture 24 - Types of Substations, comparison
- Lecture 25 - Insulation coordination, Components in a typical substation
- Lecture 26 - Preventive maintenance of Substation
- Lecture 27 - Electric and magnetic fields, mitigations techniques
- Lecture 28 - Importance of Grounding, reducing Earthing resistance
- Lecture 29 - Introduction to the use of Fiber optic cables, OPGW

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

www.digimat.in

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

- Lecture 30 - Introduction to communication and SCADA
- Lecture 31 - Precautions and safety measures in substation
- Lecture 32 - Electrical hazards, minimum clearances in substation
- Lecture 33 - Importance of Generation of HVDC in the laboratory
- Lecture 34 - Importance of Generation of HVAC, Impulse Voltage and Currents in the laboratory
- Lecture 35 - Measurements of High Voltages
- Lecture 36 - Measurements of High Voltages (Continued...)
- Lecture 37 - Introduction to digital recorders, measurement
- Lecture 38 - Upgradation/uprating of transmission lines- advantages
- Lecture 39 - Upgradation/uprating of transmission lines- advantages (Continued...)
- Lecture 40 - Summary of the course

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

NPTEL Video Course - Electrical Engineering - NOC:Mathematical Methods and Techniques in Signal Processing

Subject Co-ordinator - Prof. Shayan Srinivasa Garani

Co-ordinating Institute - IISc - Bangalore

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

- Lecture 1 - Introduction to signal processing
- Lecture 2 - Basics of signals and systems
- Lecture 3 - Linear time-invariant systems
- Lecture 4 - Modes in a linear system
- Lecture 5 - Introduction to state space representation
- Lecture 6 - State space representation
- Lecture 7 - Non-uniqueness of state space representation
- Lecture 8 - Introduction to vector space
- Lecture 9 - Linear independence and spanning set
- Lecture 10 - Unique representation theorem
- Lecture 11 - Basis and cardinality of basis
- Lecture 12 - Norms and inner product spaces
- Lecture 13 - Inner products and induced norm
- Lecture 14 - Cauchy Schwartz inequality
- Lecture 15 - Orthonormality
- Lecture 16 - Problem on sum of subspaces
- Lecture 17 - Linear independence of orthogonal vectors
- Lecture 18 - Hilbert space and linear transformation
- Lecture 19 - Gram Schmidt orthonormalization
- Lecture 20 - Linear approximation of signal space
- Lecture 21 - Gram Schmidt orthogonalization of signals
- Lecture 22 - Problem on orthogonal complement
- Lecture 23 - Problem on signal geometry (4-QAM)
- Lecture 24 - Basics of probability and random variables
- Lecture 25 - Mean and variance of a random variable
- Lecture 26 - Introduction to random process
- Lecture 27 - Statistical specification of random processes
- Lecture 28 - Stationarity of random processes
- Lecture 29 - Problem on mean and variance

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

www.digimat.in

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

- Lecture 30 - Problem on MAP Detection
- Lecture 31 - Fourier transform of dirac comb sequence
- Lecture 32 - Sampling theorem
- Lecture 33 - Basics of multirate systems
- Lecture 34 - Frequency representation of expanders and decimators
- Lecture 35 - Decimation and interpolation filters
- Lecture 36 - Fractional sampling rate alterations
- Lecture 37 - Digital filter banks
- Lecture 38 - DFT as filter bank
- Lecture 39 - Noble Identities
- Lecture 40 - Polyphase representation
- Lecture 41 - Efficient architectures for interpolation and decimation filters
- Lecture 42 - Problems on simplifying multirate systems using noble identities
- Lecture 43 - Problem on designing synthesis bank filters
- Lecture 44 - Efficient architecture for fractional decimator
- Lecture 45 - Multistage filter design
- Lecture 46 - Two-channel filter banks
- Lecture 47 - Amplitude and phase distortion in signals
- Lecture 48 - Polyphase representation of 2-channel filter banks, signal flow graphs and perfect reconstruction
- Lecture 49 - M-channel filter banks
- Lecture 50 - Polyphase representation of M-channel filter bank
- Lecture 51 - Perfect reconstruction of signals
- Lecture 52 - Nyquist and half band filters
- Lecture 53 - Special filter banks for perfect reconstruction
- Lecture 54 - Introduction to wavelets
- Lecture 55 - Multiresolution analysis and properties
- Lecture 56 - The Haar wavelet
- Lecture 57 - Structure of subspaces in MRA
- Lecture 58 - Haar decomposition - 1
- Lecture 59 - Haar decomposition - 2
- Lecture 60 - Wavelet Reconstruction
- Lecture 61 - Haar wavelet and link to filter banks
- Lecture 62 - Demo on wavelet decomposition
- Lecture 63 - Problem on circular convolution
- Lecture 64 - Time frequency localization
- Lecture 65 - Basic analysis
- Lecture 66 - Basic Analysis
- Lecture 67 - Fourier series and notions of convergence
- Lecture 68 - Convergence of Fourier series at a point of continuity

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

www.digimat.in

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

- Lecture 69 - Convergence of Fourier series for piecewise differentiable periodic functions
- Lecture 70 - Uniform convergence of Fourier series of piecewise smooth periodic function
- Lecture 71 - Convergence in norm of Fourier series
- Lecture 72 - Convergence of Fourier series for all square integrable periodic functions
- Lecture 73 - Problem on limits of integration of periodic functions
- Lecture 74 - Matrix Calculus
- Lecture 75 - KL transform
- Lecture 76 - Applications of KL transform
- Lecture 77 - Demo on KL Transform
- Lecture 78 - Live Session
- Lecture 79 - Live Session 2

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

NPTEL Video Course - Electrical Engineering - NOC:Electronics Enclosures Thermal Issues

Subject Co-ordinator - Prof. N. V Chalapathi Rao

Co-ordinating Institute - IISc - Bangalore

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

Lecture 1 - Electronic Equipment Thermal issues

Lecture 2 - Practical Examples - 1

Lecture 3 - Practical Examples - 2

Lecture 4 - CEDT worked examples - 1

Lecture 5 - CEDT worked examples - 2

Lecture 6 - Text book theory

Lecture 7 - Sample heat sinks

Lecture 8 - Published correlations - 1

Lecture 9 - Published correlations - 2

Lecture 10 - Parallel combined effects

Lecture 11 - Mounting of packages

Lecture 12 - Combined Rth of devices

Lecture 13 - Schonholzer moduls

Lecture 14 - 1972 model paper

Lecture 15 - Jensen model

Lecture 16 - Thermal management - 1

Lecture 17 - Thermal management - 2

Lecture 18 - Round up of full model

Lecture 19 - Fan cooling

Lecture 20 - Thermo-electric cooling

Lecture 21 - On-the-net DIY work

Lecture 22 - Practical video

Lecture 23 - Lecture 23

Lecture 24 - Lecture 24

Lecture 25 - Lecture 25

Lecture 26 - Lecture 26

Lecture 27 - Real packages

Lecture 28 - Prior art

Lecture 29 - OTS standard profiles

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

www.digimat.in

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

- Lecture 30 - CAD detailed design of profiles
- Lecture 31 - Round up
- Lecture 32 - 4X Peltier Cooler
- Lecture 33 - Manufacturing Video
- Lecture 34 - Peltier heat sink

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

NPTEL Video Course - Electrical Engineering - NOC: Integrated Circuits, MOSFETs, Op-Amps and their Application

Subject Co-ordinator - Prof. Hardik Jeetendra Pandya

Co-ordinating Institute - IISc - Bangalore

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

Lecture 1 - Introduction to Integrated Circuits (IC) Technology

Lecture 2 - Introduction to fabrication of IC

Lecture 3 - Introduction to IC fabrication

Lecture 4 - Introduction to IC fabrication (Continued...)

Lecture 5 - Introduction to the fabrication of sensors

Lecture 6 - Introduction to fabrication technology

Lecture 7 - Introduction to fabrication technology (Continued...)

Lecture 8 - Introduction to fabrication technology (Continued...)

Lecture 9 - Introduction to fabrication technology (Continued...)

Lecture 10 - Introduction to fabrication technology (Continued...)

Lecture 11 - Process flow for Fabrication of MOSFETs

Lecture 12 - Operation of Enhancement type MOSFET

Lecture 13 - Operation of Depletion type MOSFET

Lecture 14 - MOSFETs Characteristics and Applications (Current Mirrors)

Lecture 15 - Introduction to Operational Amplifiers

Lecture 16 - Operational Amplifier Characteristics

Lecture 17 - Operational Amplifier Characteristics (Continued...)

Lecture 18 - Characteristics of an op-amp (Continued...)

Lecture 19 - Operational Amplifier Configurations

Lecture 20 - Operational Amplifier Configurations (Continued...)

Lecture 21 - Applications of Operational Amplifier

Lecture 22 - Applications of Operational Amplifier

Lecture 23 - Applications of Operational Amplifier

Lecture 24 - Introduction to Passive and Active Filters and op-amp as Low Pass Filter

Lecture 25 - Operational Amplifier as a High Pass Filter

Lecture 26 - Operational Amplifier as a Band Pass and Band Reject Filter

Lecture 27 - Introduction to Oscillator

Lecture 28 - RC Phase Shift Oscillator using Op-amp

Lecture 29 - Wein Bridge Oscillator using Op-amp

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

www.digimat.in

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

- Lecture 30 - Hartley and Colpitts Oscillator using Op-amp
- Lecture 31 - Working of Crystal Oscillators
- Lecture 32 - Construction and Operation of UJT Relaxation Oscillators
- Lecture 33 - Introduction to Noise and its Types
- Lecture 34 - Analysis of Data Sheets of an Op-Amp
- Lecture 35 - Analysis of Data Sheets of an Op-Amp (Continued...)
- Lecture 36 - Analysis of Data Sheets of an Op-Amp (Continued...)
- Lecture 37 - Experiment - Introduction to Laboratory Equipment
- Lecture 38 - Experiment - Measurement of Active and Passive elements using Multimeter
- Lecture 39 - Experiment - Working with Laboratory Equipment
- Lecture 40 - Experiment - Working with Laboratory Equipment
- Lecture 41 - Experiment - Op-Amp Characteristics
- Lecture 42 - Experiment - Op-Amp Characteristics
- Lecture 43 - Experiment - Op-Amp Characteristics
- Lecture 44 - Experiment - Op-Amp as Inverting Amplifier
- Lecture 45 - Experiment - Op-Amp as Non-Inverting Amplifier
- Lecture 46 - Experiment - To study input and output voltage range of an Op-Amp
- Lecture 47 - Experiment - Differential amplifier using op-amp
- Lecture 48 - Experiment - To study the gain of instrumentation amplifier
- Lecture 49 - Experiment - Summing amplifier using op-amp
- Lecture 50 - Experiment - To study op-amp based comparator
- Lecture 51 - Experiment - To study op-amp based integrator and differentiator
- Lecture 52 - Experiment - Study of passive low pass filter
- Lecture 53 - Experiment - Op-amp based active low pass filter
- Lecture 54 - Experiment - Passive and active high pass filter
- Lecture 55 - Experiment - Introduction to experimental set-up of band pass filter
- Lecture 56 - Experiment - Passive and active band pass filter
- Lecture 57 - Experiment - Introduction to experimental set-up for band reject filter
- Lecture 58 - Experiment - Active band reject filter
- Lecture 59 - Experiment - Peak detector circuit using Op-Amp

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

NPTEL Video Course - Electrical Engineering - NOC:Semiconductor Devices and Circuits

Subject Co-ordinator - Prof. Sanjiv Sambandan

Co-ordinating Institute - IISc - Bangalore

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

Lecture 1 - Quantum Mechanics
Lecture 2 - Quantum Mechanics
Lecture 3 - Quantum Mechanics
Lecture 4 - Solids
Lecture 5 - Solids
Lecture 6 - Solids
Lecture 7 - Solids
Lecture 8 - Solids
Lecture 9 - Density of States
Lecture 10 - Density of States (Continued...), Fermi Function
Lecture 11 - Fermi Function - Carrier Concentration
Lecture 12 - Doping
Lecture 13 - Doping (Continued...)
Lecture 14 - Recombination and Generation
Lecture 15 - Recombination and Generation (Continued...)
Lecture 16 - Recombination and Generation (Continued...), Charge Transport
Lecture 17 - Charge Transport (Continued...)
Lecture 18 - Continuity Equation
Lecture 19 - Junctions
Lecture 20 - Metal Semiconductor Junctions
Lecture 21 - Schottky Contact
Lecture 22 - Schottky Contact
Lecture 23 - Schottky Contact
Lecture 24 - Schottky Contact
Lecture 25 - PN Junctions
Lecture 26 - PN Junctions
Lecture 27 - PN Junctions
Lecture 28 - PN Junctions
Lecture 29 - Bipolar Junction Transistors (BJT)

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

www.digimat.in

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

- Lecture 30 - BJT
- Lecture 31 - BJT
- Lecture 32 - Metal Oxide Semiconductor Capacitor (MOSCAP)
- Lecture 33 - MOSCAP (Continued...)
- Lecture 34 - MOSCAP
- Lecture 35 - MOSCAP
- Lecture 36 - MOSFET
- Lecture 37 - MOSFET
- Lecture 38 - MOSFET
- Lecture 39 - MOSFET
- Lecture 40 - Subthreshold swing, Additional concepts
- Lecture 41 - Trapped charge, Body-bias
- Lecture 42 - Scaling of MOSFETs
- Lecture 43 - Scaling of MOSFETs (Continued...), Leakage currents in MOSFETs
- Lecture 44 - MOSFET characterization
- Lecture 45 - MOSFET characterization
- Lecture 46 - MOSFET as a switch
- Lecture 47 - MOSFET as a switch (Continued...)
- Lecture 48 - Amplifiers using MOSFET
- Lecture 49 - Amplifiers using MOSFET (Continued...)
- Lecture 50 - Circuits
- Lecture 51 - Introduction
- Lecture 52 - Thin Film Transistors
- Lecture 53 - Tutorials Session - 1
- Lecture 54 - Tutorials Session - 2
- Lecture 55 - Tutorials Session - 3

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

NPTEL Video Course - Electrical Engineering - NOC:Fabrication Techniques for MEMs-based Sensors: Clinical Per

Subject Co-ordinator - Prof. Hardik Jeetendra Pandya

Co-ordinating Institute - IISc - Bangalore

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

- Lecture 1 - Introduction to Microengineering Devices
- Lecture 2 - Introduction to Microengineering Devices (Continued...)
- Lecture 3 - Introduction to Microengineering Devices (Continued...)
- Lecture 4 - Silicon, silicon di-oxide and photolithography
- Lecture 5 - Silicon, silicon di-oxide and photolithography (Continued...)
- Lecture 6 - Physical Vapour Deposition
- Lecture 7 - Physical Vapour Deposition (Continued...)
- Lecture 8 - Photolithography
- Lecture 9 - Mask Aligner
- Lecture 10 - Mask Aligner (Continued...)
- Lecture 11 - Micromachining
- Lecture 12 - Micromachining
- Lecture 13 - Micromachining
- Lecture 14 - Micromachining
- Lecture 15 - Chemical Vapour Deposition
- Lecture 16 - Typical Microfabricated Devices for Biomedical Applications
- Lecture 17 - Cancer Diagnostic Tool
- Lecture 18 - Process flow for Fabrication of Micro Heater
- Lecture 19 - Process flow for Fabrication of Interdigitated Electrodes
- Lecture 20 - Process flow for Fabrication of Interdigitated Electrodes (Continued...)
- Lecture 21 - Process flow for Fabrication of ETM phenotyping
- Lecture 22 - Process flow for Fabrication of Piezo canteliver
- Lecture 23
- Lecture 24
- Lecture 25
- Lecture 26
- Lecture 27 - Microchip for Rapid Drug Screening
- Lecture 28 - Microchip for Rapid Drug Screening (Continued...)
- Lecture 29 - A Microfluidic chip for rapid bacterial antibiotic Susceptibility testing

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

www.digimat.in

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

- Lecture 30 - Smart Catheter
- Lecture 31 - Smart Catheter
- Lecture 32 - Smart Catheter
- Lecture 33 - Tissue and Cell Culture Techniques
- Lecture 34 - Clean Room
- Lecture 35 - GLP
- Lecture 36 - Introduction to Equipments
- Lecture 37 - Gowning Procedure for using Biological Lab Setup
- Lecture 38 - Introduction to Equipments
- Lecture 39 - Introduction to Equipments
- Lecture 40 - Introduction to Equipments
- Lecture 41 - Function generator, Multimeter, Sampling, LabVIEW, NI-CDAQ
- Lecture 42 - Introduction to Equipments
- Lecture 43 - Introduction to Equipments
- Lecture 44 - Introduction to Equipments
- Lecture 45 - Introduction to Equipments
- Lecture 46 - Introduction to Equipments
- Lecture 47 - Introduction to Equipments
- Lecture 48 - Introduction to Equipments
- Lecture 49 - Introduction to Equipments
- Lecture 50 - Introduction to Equipments
- Lecture 51 - PDMS Moulding
- Lecture 52 - 3D Printing
- Lecture 53 - Introduction to Fabricated Sensors
- Lecture 54 - Simulation
- Lecture 55 - Simulation

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

NPTEL Video Course - Electrical Engineering - NOC:Op-Amp Practical Applications: Design, Simulation and Implementation

Subject Co-ordinator - Prof. Hardik Jeetendra Pandya

Co-ordinating Institute - IISc - Bangalore

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

- Lecture 1 - Introduction/Summary on Op-amps
- Lecture 2 - Introduction/Summary on Op-amps (Continued...)
- Lecture 3 - Introduction/Summary on Op-amps (Continued...)
- Lecture 4 - Effect of Loading and Input Impedance - Part 1
- Lecture 5 - Effect of Loading and Input Impedance - Part 2
- Lecture 6 - Effect of Loading and Input Impedance - Part 3
- Lecture 7 - Effect of Loading and Input Impedance - Part 4
- Lecture 8 - Introduction to an Analog Circuit Development Board (TI ASLK Pro)
- Lecture 9 - Op-amp Applications
- Lecture 10 - Op-amp Applications
- Lecture 11 - Op-amp Applications
- Lecture 12 - Op-amp Circuits using Diodes
- Lecture 13 - Understanding the Range of Feedback Amplifiers
- Lecture 14 - Op-amps as Phase Shift Oscillator
- Lecture 15 - Op-amp as Wein Bridge Oscillator
- Lecture 16 - Op-amp as Hartley Oscillator
- Lecture 17 - Op-amp as Colpitts Oscillator
- Lecture 18 - Op-amps as Comparator
- Lecture 19 - Op-amp with Positive Feedback
- Lecture 20 - Op-amp with Positive Feedback
- Lecture 21 - Op-amp with Positive Feedback
- Lecture 22 - Op-amp with Positive Feedback
- Lecture 23 - Op-amp based Voltage Controlled Current Source
- Lecture 24 - Measure of Unknown Resistance by Constant Current Drive Circuit Implemented using Op-amp
- Lecture 25 - Design and Development of Temperature Controlled Circuit using Op-amp as ON-OFF, Proportional and Integral Controller
- Lecture 26 - Implementation of Error Detector Circuit and Signal Conditioning Circuit for Temperature Control
- Lecture 27 - Implementation of Plant/Heating Circuit and ON-OFF Controller
- Lecture 28 - Implementation of P and PI Controllers
- Lecture 29 - Experiment on Controlling the Temperature on the Plant using different Controllers

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

www.digimat.in

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

- Lecture 30 - Experiment
- Lecture 31 - Introduction to ECG Experiment
- Lecture 32 - Desing and Implementation of ECG Preprocessing Stage - Part 1
- Lecture 33 - Desing and Implementation of ECG Preprocessing Stage - Part 2
- Lecture 34 - Desing and Implementation of ECG Preprocessing Stage - Part 3
- Lecture 35 - Desing and Implementation of ECG Preprocessing Stage - Part 4
- Lecture 36 - Desing and Implementation of Peak Detetor and Thresholding Circuit for ECG Signal Conditioning
- Lecture 37 - Live Demonstration on ECG Signal Acquistion, Conditioning and Measurement of BPM
- Lecture 38 - Understanding Analog Multipliers using Development Board
- Lecture 39 - Application
- Lecture 40 - Introdution to Data-Acquisition
- Lecture 41 - Analog to Digital Conversion Circuits and Experiment on 2-bit Flash Type ADC
- Lecture 42 - Digital to Analog Conversion Circuits and Experiment on 4-bit R-2R DAC
- Lecture 43 - DAC Basics using Development Board - Introduction
- Lecture 44 - Understanding DAC 7821 Datasheet
- Lecture 45 - Basic DAC Experiment on Variable Gain Amplifier
- Lecture 46 - Understanding DAC
- Lecture 47 - Introduction to CDAQ (Compact DAQ)
- Lecture 48 - Software-in-Loop based Temperature Controller using CDAQ and LabVIEW

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

NPTEL Video Course - Electrical Engineering - NOC:Physical Modelling for Electronics Enclosures using Rapid p

Subject Co-ordinator - Prof. N. V Chalapathi Rao

Co-ordinating Institute - IISc - Bangalore

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

- Lecture 1 - Products prototyping
- Lecture 2 - Prototype concepts
- Lecture 3 - Physical simulation
- Lecture 4 - Rapid Prototyping
- Lecture 5 - Products detailing
- Lecture 6 - Advantages of Design Modelling
- Lecture 7 - Sample product concept
- Lecture 8 - Product sample exercise 1
- Lecture 9 - Exercise in product sample 2
- Lecture 10 - Integration of components 1
- Lecture 11 - Components integration in models
- Lecture 12 - 3D printing detail 1
- Lecture 13 - 3D printing detail 2
- Lecture 14 - 3D print assembly design
- Lecture 15 - Heat spreader to 3D print
- Lecture 16 - Metallic, 3D, build up 1
- Lecture 17 - 3D build up 2
- Lecture 18 - 3D design 1 from Photo snap
- Lecture 19 - 3D design 2 from Photo snap
- Lecture 20 - 3D Laser cuts 1, prints
- Lecture 21 - 3D Laser cuts 2, open source public prints
- Lecture 22 - Demo of 3D Part print
- Lecture 23 - Building a model 1
- Lecture 24 - Building a model 2
- Lecture 25 - Common place objects
- Lecture 26 - Materials
- Lecture 27 - Future 3D In biology
- Lecture 28 - Product clamp variants
- Lecture 29 - Product clamp build up

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

www.digimat.in

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

- Lecture 30 - Multi direction features
- Lecture 31 - Multi direction features (Continued...)
- Lecture 32 - Fastening detail
- Lecture 33 - Flat objects
- Lecture 34 - Modularity
- Lecture 35 - Creative design work
- Lecture 36 - Creative designs
- Lecture 37 - Using flat features
- Lecture 38 - Organic shapes
- Lecture 39 - Simulation for alternate use

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

NPTEL Video Course - Electrical Engineering - NOC:Recent Advances in Transmission Insulators

Subject Co-ordinator - Prof Subba Reddy B

Co-ordinating Institute - IISc - Bangalore

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

Lecture 1 - Introduction to Transmission and distribution Insulators

Lecture 2 - Manufacturing process for Ceramic/glass Insulators

Lecture 3 - Manufacturing process for Polymeric Insulators

Lecture 4 - Design Considerations of Transmission Insulators

Lecture 5 - Field experience of Ceramic/Glass and Polymeric Insulators

Lecture 6 - Comparison of Transmission Insulators

Lecture 7 - Environmental issues with transmission Insulators

Lecture 8 - Reliability and Philosophy of Testing

Lecture 9 - Testing of Ceramic, Glass and Composite Insulators

Lecture 10 - Cleaning methods adopted for Insulators

Lecture 11 - Cleaning methods adopted for Insulators (Continued...)

Lecture 12 - Coating techniques for Insulators

Lecture 13 - Introduction to Hybrid Insulators