NPTEL : Adv. Digital Signal Processing - Multirate and wavelets (Electronics and Communication Engineering)

Co-ordinators : Prof. V.M. Gadre

NPTEL : Advanced Optical Communication (Electronics and Communication Engineering)

Co-ordinators : Prof. R.K. Shevgaonkar

NPTEL : Advanced VLSI Design (Electronics and Communication Engineering)

Co-ordinators : Prof. A.N. Chandorkar, Prof. D.K. Sharma, Prof. Sachin Patkar, Prof. Virendra Singh

NPTEL : Broadband Networks: Concepts and Technology (Electronics and Communication Engineering)

Co-ordinators : Prof. Abhay Karandikar

Lecture 32 - Metro Ethernet Access Networks

NPTEL : Digital Communication (Electronics and Communication Engineering)

Co-ordinators : Prof. Bikash Kumar Dey

Lecture 32 - Conclusion

NPTEL : Information Theory and Coding (Electronics and Communication Engineering)

Co-ordinators : Prof. S.N. Merchant

NPTEL : Transmission Lines and EM Waves (Electronics and Communication Engineering)

Co-ordinators : Prof. R.K. Shevgaonkar

NPTEL : CMOS Analog VLSI Design (Electronics and Communication Engineering)

Co-ordinators : Prof. A.N. Chandorkar

NPTEL : Analog Circuits (Electronics and Communication Engineering)

Co-ordinators : Prof. A.N. Chandorkar

NPTEL : NOC:Microwave Integrated Circuits (Electronics and Communication Engineering)

Co-ordinators : Prof. Jayanta Mukherjee

NPTEL : NOC:Foundations of Wavelets and Multirate Digital Signal Processing (Electronics and Communication Engineering)

Co-ordinators : Prof. V.M. Gadre

NPTEL : RF Integrated Circuits (Electronics and Communication Engineering)

Co-ordinators : Dr. Shouribrata Chatterjee

NPTEL : Communication Engineering (Electronics and Communication Engineering)

Co-ordinators : Prof. Surendra Prasad

NPTEL : Digital Signal Processing (Electronics and Communication Engineering)

Co-ordinators : Prof. S.C. Dutta Roy

NPTEL : Wireless Communication (Electronics and Communication Engineering)

Co-ordinators : Prof. Ranjan Bose

NPTEL : Basic Electronics (Electronics and Communication Engineering)

Co-ordinators : Prof. Chitralekha Mahanta

NPTEL : NOC:VLSI Design Verification and Test (Electronics and Communication Engineering)

Co-ordinators : Dr. Santosh Biswas, Jatindra Kumar Deka, Prof.Arnab sarkar

NPTEL : NOC:Design of Power Electronic Converters (Electronics and Communication Engineering)

Co-ordinators : Prof. Shabari Nath

NPTEL : NOC:Operation and Planning of Power Distribution Systems (Electronics and Communication Engineering)

Co-ordinators : Prof. Sanjib Ganguly

NPTEL : NOC:Nanophotonics, Plasmonics, and Metamaterials (Electronics and Communication Engineering)

Co-ordinators : Dr. Debabrata Sikdar, Dr. Debabrata Sikdar

NPTEL : NOC:Power Electronics Applications in Power Systems (Electronics and Communication Engineering)

Co-ordinators : Prof. Sanjib Ganguly

NPTEL : Signals and Systems (Electronics and Communication Engineering)

Co-ordinators : Prof. K.S. Venkatesh

NPTEL : Advanced 3G and 4G Wireless Mobile Communications (Electronics and Communication Engineering)

Co-ordinators : Prof. Aditya K. Jagannatham

NPTEL : Digital Switching (Electronics and Communication Engineering)

Co-ordinators : Prof. Yatindra N Singh

Lecture 1 - Digital Switching

Lecture 2 - Digital Switching

Lecture 3 - Digital Switching

Lecture 4 - Digital Switching

Lecture 5 - Digital Switching

Lecture 6 - Digital Switching

Lecture 7 - Digital Switching

Lecture 8 - Digital Switching

Lecture 9 - Digital Switching

Lecture 10 - Digital Switching

Lecture 11 - Digital Switching

Lecture 12 - Digital Switching

Lecture 13 - Digital Switching

Lecture 14 - Digital Switching

Lecture 15 - Digital Switching

Lecture 16 - Digital Switching

Lecture 17 - Digital Switching

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Lecture 26 - Digital Switching

Lecture 27 - Digital Switching

Lecture 28 - Digital Switching

Lecture 29 - Digital Switching

Lecture 30 - Digital Switching

Lecture 31 - Digital Switching

Lecture 32 - Digital Switching

Lecture 33 - Digital Switching

Lecture 34 - Digital Switching

Lecture 35 - Digital Switching

Lecture 36 - Digital Switching

Lecture 37 - Digital Switching

NPTEL : NOC:Principles of Modern CDMA-MIMO-OFDM Wireless Communications (Electronics and Communication Engineering)

Co-ordinators : Prof. Aditya K. Jagannatham

NPTEL : NOC:Probability and Random Variables, Processes for Wireless Communications (Electronics and Communication Engineering)

Co-ordinators : Prof. Aditya K. Jagannatham

NPTEL : NOC:Estimation for Wireless Communications, MIMO, OFDM Cellular and Sensor Networks (Electronics and Communication Engineering)

Co-ordinators : Prof. Aditya K. Jagannatham

NPTEL : NOC:Error Control Coding - An Introduction to Convolutional Codes (Electronics and Communication Engineering)

Co-ordinators : Dr. Adrish Banerjee

NPTEL : NOC:Error Control Coding - An Introduction to Linear Block code (Electronics and Communication Engineering)

Co-ordinators : Dr. Adrish Banerjee

NPTEL : NOC:Bayesian, MMSE Estimation for Wireless Communications MIMO, OFDM Cellular and Sensor Networks (Electronics and Communication Engineering)

Co-ordinators : Prof. Aditya K. Jagannatham

NPTEL : NOC:Optical communications (Electronics and Communication Engineering)

Co-ordinators : Dr. Pradeep Kumar K

NPTEL : NOC:Digital Switching-I (Electronics and Communication Engineering)

Co-ordinators : Prof. Yatindra N Singh

NPTEL : NOC:An Introduction to Information Theory (Electronics and Communication Engineering)

Co-ordinators : Dr. Adrish Banerjee

NPTEL : NOC:5G Wireless Standard Design (Electronics and Communication Engineering)

Co-ordinators : Prof. Rohit Budhiraja

NPTEL : Adaptive Signal Processing (Electronics and Communication Engineering)

Co-ordinators : Prof. Mrityunjoy Chakraborty

NPTEL : Digital Computer Organization (Electronics and Communication Engineering)

Co-ordinators : Prof. P.K. Biswas

NPTEL : Digital Image Processing (Electronics and Communication Engineering)

Co-ordinators : Prof. P.K. Biswas

NPTEL : Digital Systems Design (Electronics and Communication Engineering)

Co-ordinators : Prof. D. Roychoudhury

NPTEL : Digital Voice and Picture Communication (Electronics and Communication Engineering)

Co-ordinators : Prof. Somnath Sengupta

NPTEL : MEMS and Microsystems (Electronics and Communication Engineering)

Co-ordinators : Prof. Santiram Kal

Lecture 32 - MEMS for Biomedical Applications (Bio-MEMS)

NPTEL : Neural Networks and Applications (Electronics and Communication Engineering)

Co-ordinators : Prof. Somnath Sengupta

NPTEL : Probability and Random Processes (Electronics and Communication Engineering)

Co-ordinators : Prof. Mrityunjoy Chakraborty

NPTEL : Pattern Recognition and Application (Electronics and Communication Engineering)

Co-ordinators : Prof. P.K. Biswas

NPTEL : NOC:Basic Tools of Microwave Engineering (Electronics and Communication Engineering)

Co-ordinators : Dr. Amitabha Bhattacharya

NPTEL : NOC:Basic Building Blocks of Microwave Engineering (Electronics and Communication Engineering)

Co-ordinators : Dr. Amitabha Bhattacharya

NPTEL : NOC:Satellite Communication Systems (Electronics and Communication Engineering)

Co-ordinators : Prof. Kalyankumar Bandyopadhyay

NPTEL : NOC:Fundamentals of MIMO Wireless Communication (Electronics and Communication Engineering)

Co-ordinators : Prof. Suvra Sekhar Das

NPTEL : NOC:Audio System Engineering (Electronics and Communication Engineering)

Co-ordinators : Prof. S. Dasmandal

NPTEL : NOC:Discrete Time Signal Processing (Electronics and Communication Engineering)

Co-ordinators : Prof. Mrityunjoy Chakraborty

NPTEL : NOC:Digital Image Processing (Electronics and Communication Engineering)

Co-ordinators : Prof. P.K. Biswas

NPTEL : NOC:Spread Spectrum Communications and Jamming (Electronics and Communication Engineering)

Co-ordinators : Prof. Debarati Sen

NPTEL : NOC:Digital VLSI Testing (Electronics and Communication Engineering)

Co-ordinators : Prof. Santanu Chattopadhyay

NPTEL : NOC:Design Principles of RF and Microwave Filters and Amplifiers (Electronics and Communication Engineering)

Co-ordinators : Prof. Amitabha Bhattacharya

NPTEL : NOC:Millimeter Wave Technology (Electronics and Communication Engineering)

Co-ordinators : Prof. Mrinal Kanti Mandal

NPTEL : NOC:Power System Analysis (Electronics and Communication Engineering)

Co-ordinators : Prof. Debapriya Das

NPTEL : NOC:Analog Communication (Electronics and Communication Engineering)

Co-ordinators : Prof. Goutam Das

NPTEL : NOC:Modern Digital Communication Techniques (Electronics and Communication Engineering)

Co-ordinators : Prof. Suvra Sekhar Das

Lecture 32 - Memoryless Modulation (Continued...)

Lecture 33 - With Memory Modulation

Lecture 34 - With Memory Modulation (Continued...)

Lecture 35 - With Memory Modulation (Continued...)

Lecture 36 - With Memory Modulation (Continued...)

Lecture 37 - With Memory Modulation (Continued...)

Lecture 38 - With Memory Modulation (Continued...)

Lecture 39 - With Memory Modulation (Continued...)

Lecture 40 - Optimum Receivers for AWGN

Lecture 41 - Optimum Receivers for AWGN (Continued...)

Lecture 42 - Optimum Receivers for AWGN (Continued...)

Lecture 43 - Optimum Receivers for AWGN (Continued...)

Lecture 44 - Optimum Receivers for AWGN (Continued...)

Lecture 45 - Optimum Receivers for AWGN (Continued...)

Lecture 46 - Performance of Digital Modulation Techniques

Lecture 47 - Performance of Digital Modulation Techniques (Continued...)

Lecture 48 - Performance of Digital Modulation Techniques (Continued...)

Lecture 49 - Performance of Digital Modulation Techniques (Continued...)

Lecture 50 - Performance of Digital Modulation Techniques (Continued...)

Lecture 51 - Performance of Digital Modulation Techniques (Continued...)

Lecture 52 - Performance of Digital Modulation Techniques (Continued...)

Lecture 53 - Channel Estimation and Equalization

Lecture 54 - Channel Estimation and Equalization (Continued...)

Lecture 55 - Channel Estimation and Equalization (Continued...)>

Lecture 56 - Channel Estimation and Equalization (Continued...)

Lecture 57 - Synchronization Techniques

Lecture 58 - Synchronization Techniques (Continued...)

Lecture 59 - Synchronization Techniques (Continued...)

Lecture 60 - Synchronization Techniques (Continued...)

NPTEL : NOC:Digital Speech Processing (Electronics and Communication Engineering)

Co-ordinators : Prof. Shyamal Kumar Das Mandal

NPTEL : NOC:Analog Circuits and Systems through SPICE Simulation (Electronics and Communication Engineering)

Co-ordinators : Prof. Mrigank Sharad

NPTEL : NOC:Communication Networks (Electronics and Communication Engineering)

Co-ordinators : Prof. Goutam Das

NPTEL : NOC:Signal Processing Techniques and its Applications (Electronics and Communication Engineering)

Co-ordinators : Prof. Shyamal Kumar Das Mandal

NPTEL : Analog IC Design (Electronics and Communication Engineering)

Co-ordinators : Dr. Nagendra Krishnapura

Lecture 1 - Course introduction; Negative feedback control

Lecture 2 - Negative feedback amplifier

Lecture 3 - Step response, sinusoidal steady state response

Lecture 4 - Loop gain and unity loop gain frequency; Opamp

Lecture 5 - Opamp realization using controlled sources; Delay in the loop

Lecture 6 - Negative feedback amplifier with ideal delay-small delays

Lecture 7 - Negative feedback amplifier with ideal delay-large delays

Lecture 8 - Negative feedback amplifier with parasitic poles and zeros

Lecture 9 - Negative feedback amplifier with parasitic poles and zeros; Nyquist criterion

Lecture 10 - Nyquist criterion; Phase margin

Lecture 11 - Phase margin

Lecture 12 - Single stage opamp realization

Lecture 13 - Two stage miller compensated opamp

Lecture 14 - Two stage miller compensated opamp

Lecture 15 - Two and three stage miller compensated opamps; Feedforward compensated opamp

Lecture 16 - Feedforward compensated opamp

Lecture 17 - Feedforward compensated opamp

Lecture 18 - Feedforward compensated opamp; typical opamp data sheet

Lecture 19 - Opamp offset and CMRR; Transimpedance amplifier using an opamp

Lecture 20 - Components available in a CMOS process

Lecture 21 - MOS transistors-basics

Lecture 22 - MOS transistors-parasitics, mismatch

Lecture 23 - MOS transistors-mismatch, speed

Lecture 24 - Noise in resistors

Lecture 25 - Noise in MOS transistors; Input and output referred noise

Lecture 26 - Noise scaling; Basic amplifier stages-Common source, common gate

Lecture 27 - Basic amplifier stages-Common drain; Frequency response of amplifiers

Lecture 28 - Common source amplifier frequency response; Differential amplifier

Lecture 29 - Differential and common mode half circuits; Differential pair with active load

Lecture 30 - Differential pair with current mirror load

Lecture 31 - Single stage opamp characteristics

NPTEL : Coding Theory (Electronics and Communication Engineering)

Co-ordinators : Dr. Andrew Thangaraj

NPTEL : Semiconductor Device Modeling (Electronics and Communication Engineering)

Co-ordinators : Prof. S. Karmalkar

NPTEL : VLSI Data Conversion Circuits (Electronics and Communication Engineering)

Co-ordinators : Dr. Shanthi Pavan

NPTEL : Digital Circuits and Systems (Electronics and Communication Engineering)

Co-ordinators : Prof. S. Srinivasan

NPTEL : Electronics for Analog Signal Processing - I (Electronics and Communication Engineering)

Co-ordinators : Prof. K. Radhakrishna Rao

NPTEL : Electronics for Analog Signal Processing - II (Electronics and Communication Engineering)

Co-ordinators : Prof. K. Radhakrishna Rao

NPTEL : High Speed Devices and Circuits (Electronics and Communication Engineering)

Co-ordinators : Prof. K.N. Bhat

NPTEL : Solid State Devices (Electronics and Communication Engineering)

Co-ordinators : Prof. S. Karmalkar

NPTEL : VLSI Circuits (Electronics and Communication Engineering)

Co-ordinators : Prof. S. Srinivasan

NPTEL : VLSI Technology (Electronics and Communication Engineering)

Co-ordinators : Dr. Nandita Dasgupta

NPTEL : Basic Electrical Circuits (Electronics and Communication Engineering)

Co-ordinators : Dr. Nagendra Krishnapura

NPTEL : NOC:Basic Electrical Circuits (Electronics and Communication Engineering)

Co-ordinators : Dr. Nagendra Krishnapura

NPTEL : Advanced Logic Synthesis (Electronics and Communication Engineering)

Co-ordinators : Mr. Dhiraj Taneja

NPTEL : ARM Based Development (Electronics and Communication Engineering)

Co-ordinators : Mr. S. Chandramouleeswaran

Lecture 30 - ARM Development Environment, Arm Procedure Call Standard (APCS),

Lecture 31 - Example C program

Lecture 32 - Embedded software Development, Image structure, linker inputs and outputs, memory map, application startup

Lecture 33 - AMBA Overview, Typical AMAB Based Microcontroller, AHB bus features, AHB Bus transfers, APB bus transfers, APB bridge

Lecture 34 - DMA, Peripherals, Programming Peripherals in ARM

Lecture 35 - DMA:Direct Memory Access

Lecture 36 - Protocols (I2c, SPI), UART, GPIO

Lecture 37 - ARM ISAs, ARMv5, ARMv6, ARM v7, big.little technology, ARMv8

NPTEL : Embedded Software Testing (Electronics and Communication Engineering)

Co-ordinators : Mr. Madhukeshwara H.M

NPTEL : Linux Programming and Scripting (Electronics and Communication Engineering)

Co-ordinators : Mr. Anand Iyer

NPTEL : NOC:Digital Circuits and Systems (Electronics and Communication Engineering)

Co-ordinators : Prof. Shankar Balachandran

NPTEL : NOC:Networks and Systems (Electronics and Communication Engineering)

Co-ordinators : Prof. V.G.K. Murti, Mr. C. S. Ramalingam, Dr. Andrew Thangaraj

NPTEL : NOC:Circuit Analysis for Analog Designers (Electronics and Communication Engineering)

Co-ordinators : Prof. Shanthi Pavan

NPTEL : NOC:Design and Analysis of VLSI Subsystems (Electronics and Communication Engineering)

Co-ordinators : Prof. Madhav Rao

NPTEL : NOC:Nonlinear Dynamical Systems and Control (Electronics and Communication Engineering)

Co-ordinators : Prof. Sanjay Bhat, Prof. Vijaysekhar Chellaboina

NPTEL : NOC:Digital Protection of Power System (Electronics and Communication Engineering)

Co-ordinators : Prof. Bhaveshkumar R. Bhalja

NPTEL : NOC:Physics of Nanoscale Devices (Electronics and Communication Engineering)

Co-ordinators : Prof. Vishvendra Singh Poonia

NPTEL : NOC:Low Voltage CMOS Circuit Operation (Electronics and Communication Engineering)

Co-ordinators : Prof. Anand Bulusu

NPTEL : Circuits for Analog System Design (Electronics and Communication Engineering)

Co-ordinators : Prof. M.K. Gunasekaran

NPTEL : Digital System design with PLDs and FPGAs (Electronics and Communication Engineering)

Co-ordinators : Prof. Kuruvilla Varghese

NPTEL : Error Correcting Codes (Electronics and Communication Engineering)

Co-ordinators : Prof. P. Vijay Kumar

NPTEL : Nanoelectronics: Devices and Materials (Electronics and Communication Engineering)

Co-ordinators : Dr. Navakanta Bhat, Prof. K.N. Bhat, Dr. S.A. Shivashankar

NPTEL : Pattern Recognition (Electronics and Communication Engineering)

Co-ordinators : Prof. P.S. Sastry

Lecture 1 - Introduction to Statistical Pattern Recognition

Lecture 2 - Overview of Pattern Classifiers

Lecture 3 - The Bayes Classifier for minimizing Risk

Lecture 4 - Estimating Bayes Error; Minimax and Neymann-Pearson classifiers

Lecture 5 - Implementing Bayes Classifier; Estimation of Class Conditional Densities

Lecture 6 - Maximum Likelihood estimation of different densities

Lecture 7 - Bayesian estimation of parameters of density functions, MAP estimates

Lecture 8 - Bayesian Estimation examples; the exponential family of densities and ML estimates

Lecture 9 - Sufficient Statistics; Recursive formulation of ML and Bayesian estimates

Lecture 10 - Mixture Densities, ML estimation and EM algorithm

Lecture 11 - Convergence of EM algorithm; overview of Nonparametric density estimation

Lecture 12 - Convergence of EM algorithm, Overview of Nonparametric density estimation

Lecture 13 - Nonparametric estimation, Parzen Windows, nearest neighbour methods

Lecture 14 - Linear Discriminant Functions; Perceptron -- Learning Algorithm and convergence proof

Lecture 15 - Linear Least Squares Regression; LMS algorithm

Lecture 16 - AdaLinE and LMS algorithm; General nonliner least-squares regression

Lecture 17 - Logistic Regression; Statistics of least squares method; Regularized Least Squares

Lecture 18 - Fisher Linear Discriminant

Lecture 19 - Linear Discriminant functions for multi-class case; multi-class logistic regression

Lecture 20 - Learning and Generalization; PAC learning framework

Lecture 21 - Overview of Statistical Learning Theory; Empirical Risk Minimization

Lecture 22 - Consistency of Empirical Risk Minimization

Lecture 23 - Consistency of Empirical Risk Minimization; VC-Dimension

Lecture 24 - Complexity of Learning problems and VC-Dimension

Lecture 25 - VC-Dimension Examples; VC-Dimension of hyperplanes

Lecture 26 - Overview of Artificial Neural Networks

Lecture 27 - Multilayer Feedforward Neural networks with Sigmoidal activation functions;

Lecture 28 - Backpropagation Algorithm; Representational abilities of feedforward networks

Lecture 29 - Feedforward networks for Classification and Regression; Backpropagation in Practice

Lecture 30 - Radial Basis Function Networks; Gaussian RBF networks

Lecture 31 - Learning Weights in RBF networks; K-means clustering algorithm

Lecture 32 - Support Vector Machines -- Introduction, obtaining the optimal hyperplane

Lecture 33 - SVM formulation with slack variables; nonlinear SVM classifiers

Lecture 34 - Kernel Functions for nonlinear SVMs; Mercer and positive definite Kernels

Lecture 35 - Support Vector Regression and ?-insensitive Loss function, examples of SVM learning

Lecture 36 - Overview of SMO and other algorithms for SVM; ?-SVM and ?-SVR; SVM as a risk minimizer

Lecture 37 - Positive Definite Kernels; RKHS; Representer Theorem

Lecture 38 - Feature Selection and Dimensionality Reduction; Principal Component Analysis

Lecture 39 - No Free Lunch Theorem; Model selection and model estimation; Bias-variance trade-off

Lecture 40 - Assessing Learnt classifiers; Cross Validation;

Lecture 41 - Bootstrap, Bagging and Boosting; Classifier Ensembles; AdaBoost

Lecture 42 - Risk minimization view of AdaBoost

NPTEL : Analog Circuits and Systems 1 (Electronics and Communication Engineering)

Co-ordinators : Prof. K. Radhakrishna Rao

NPTEL : NOC:Design and Simulation of DC-DC converters using Open Source Tools (Electronics and Communication Engineering)

Co-ordinators : Prof. L. Umanand

NPTEL : NOC:Enclosure Design of Electronics Equipment (Electronics and Communication Engineering)

Co-ordinators : Prof. N. V Chalapathi Rao

Lecture 32 - NEMA and related

Lecture 33 - Testing for IP class

Lecture 34 - Sealed Enclosures Video

Lecture 35 - Public utility boxes

Lecture 36 - EMI Sealing

Lecture 37 - Sealed Enclosures 2

Lecture 38 - Gasketing practice

Lecture 39 - Gasketing Basics

Lecture 40 - Off the shelf Aluminum enclosures

Lecture 41 - Understanding

Lecture 42 - Heat sink enclosures

Lecture 43 - Detailing of Built in Heat sink boxes

Lecture 44 - Connector basics

Lecture 45 - Connectors - Part 2

Lecture 46 - Common connectors

Lecture 47 - Connectors (multi way) and CoAx

Lecture 48 - MIL C connectors

Lecture 49 - CAD in Layout Drawing

Lecture 50 - Types of CAD

Lecture 51 - CAD for enclosure Design

Lecture 52 - Egpt layout with CAD

Lecture 53 - CAD sample Example

Lecture 54 - CAD Layout

Lecture 55 - Detailing with CAD

Lecture 56 - Integrating Products with CAD

Lecture 57 - Product Detailing

Lecture 58 - Components CAD Physical Models

Lecture 59 - Sheet Metal and Plastic common details

Lecture 60 - Sample of Simple Organic Shapes

Lecture 61 - Conclusion

NPTEL : NOC:Design of Photovoltaic Systems (Electronics and Communication Engineering)

Co-ordinators : Prof. L. Umanand

Lecture 32 - Examples

Lecture 33 - Energy on a tilted flat plate

Lecture 34 - Energy plots in octave

Lecture 35 - Atmospheric effects

Lecture 36 - Airmass

Lecture 37 - Energy with atmospheric effects

Lecture 38 - Clearness index

Lecture 39 - Clearness index and energy scripts in Octave

Lecture 40 - Sizing PV for applications without batteries

Lecture 41 - Sizing PV Examples

Lecture 42 - Batteries - intro

Lecture 43 - Batteries - Capacity

Lecture 44 - Batteries - C-rate

Lecture 45 - Batteries - Efficiency

Lecture 46 - Batteries - Energy and power densities

Lecture 47 - Batteries - Comparison

Lecture 48 - Battery selection

Lecture 49 - Other energy storage methods

Lecture 50 - PV system design - Load profile

Lecture 51 - PV system design - Days of autonomy and recharge

Lecture 52 - PV system design - Battery size

Lecture 53 - PV system design - PV array size

Lecture 54 - Design toolbox in octave

Lecture 55 - MPPT concept>

Lecture 56 - Input impedance of DC-DC converters - Boost converter

Lecture 57 - Input impedance of DC-DC converters - Buck converter

Lecture 58 - Input impedance of DC-DC converters - Buck-Boost converter

Lecture 59 - Input impedance of DC-DC converters - PV module in SPICE

Lecture 60 - Input impedance of DC-DC converters -Simulation - PV and DC-DC interface

Lecture 61 - Impedance control methods

Lecture 62 - Impedance control methods- Reference cell - voltage scaling

Lecture 63 - Impedance control methods- Reference cell - current scaling

Lecture 64 - Impedance control methods- Reference cell - Sampling method

NPTEL : NOC:Photonic Integrated Circuits (Electronics and Communication Engineering)

Co-ordinators : Dr. Srinivas Talabatulla

NPTEL : NOC:Neural Science for Engineers (Electronics and Communication Engineering)

Co-ordinators : Prof. Vikas V

NPTEL : NOC:Analog Circuits and Systems (Electronics and Communication Engineering)

Co-ordinators : Prof. K Radhakrishna Rao