

Archive Video Lectures

SN	Lec. No	Subject/Topics
		Computer Network by Ghosh, Sujoy , IIT, Khadagpur
1	Lec.-01	Emergence of Networks & Reference Models
2	Lec.-02	Network Topology
3	Lec.-03	Physical Medium-I
4	Lec.-04	Physical Medium-II
5	Lec.-05	Multiplexing (Sharing a Medium)
6	Lec.-06	Telecom Networks
7	Lec.-07	Switches-I
8	Lec.-08	Pocket Switches
9	Lec.-09	SONET/SDH
10	Lec.-10	Fiber Optic Components
11	Lec.-11	Routing and weblenght Assignment in WDM all-optical networks
12	Lec.-12	Protection and Restoration
13	Lec.-13	Multiple Access
14	Lec.-14	Token Based Mac
15	Lec.-15	Data Link Protocols
16	Lec.-16	Error Control
17	Lec.-17	Stop & Wait Protocol
18	Lec.-18	Satellite Communication
19	Lec.-19	Ethernet - CSMA/CD
20	Lec.-20	Modern Ethernet
21	Lec.-21	Local Internetworking
22	Lec.-22	Cellular Networks
23	Lec.-23	Wireless Network
24	Lec.-24	ATM : Asynchronous Transfer Mode
25	Lec.-25	ATM : Signaling, Routing and LAN Emulation
26	Lec.-26	Introduction to Routing
27	Lec.-27	RIP- Distance Vector Routing
28	Lec.-28	IP Version 4
29	Lec.-29	IP Version 6 & Mobile IP

- 30 Lec.-30 UDP & Client Server
- 31 Lec.-31 TCP
- 32 Lec.-33 DHCP and ICMP
- 33 Lec.-34 DNS & Directory
- 34 Lec.-35 Congestion Control
- 35 Lec.-36 QOS & Multimedia
- 36 Lec.-37 Network Management
- 37 Lec.-38 Security
- 38 Lec.-39 FTP - SMTP
- 39 Lec.-40 HTTP

Digital Communication by Dey, Bikash Kumar, IIT, Bombay

- 40 Lec.-01 Introduction to Digital Communication-
- 41 Lec.-02 Sampling-
- 42 Lec.-03 Quantization , PCM and Delta Modulation-
- 43 Lec.-04 Probability and Random Process-(2)
- 44 Lec.-06 Channels and their Models
- 45 Lec.-07 Channels and their Models (Part -2)
- 46 Lec.-08 Information Theory (Part - 1)-(2)
- 47 Lec.-10 Bandpass Signal Representation (Part 1)-(2)

Industrial Instrumentation by Baura, Alok, IIT, Khadagpur

- 48 Lec.-01 Introduction
- 49 Lec.-02 Dynamic Characteristics
- 50 Lec.-03 Dynamic Characteristics (Contd.)
- 51 Lec.-04 Strain Gauge
- 52 Lec.-05 Load Cell
- 53 Lec.-06 Torque Measurement
- 54 Lec.-07 Thermistor
- 55 Lec.-08 Thermocouples
- 56 Lec.-09 Resistance Temperature Detector
- 57 Lec.-10 LDVT
- 58 Lec.-11 Capacitance Transducers
- 59 Lec.-12 Flowmeter - I
- 60 Lec.-13 Flowmeter - II

- 61 Lec.-14 Flowmeter - III
- 62 Lec.-15 Flowmeter - IV
- 63 Lec.-16 Flowmeter - V
- 64 Lec.-17 Problems on Temperature Sensors
- 65 Lec.-18 Pressure Sensors
- 66 Lec.-19 Low Pressure Measurement
- 67 Lec.-20 pH and Viscosity Measurement
- 68 Lec.-21 Problems and Solutions on Industrial Instrumentation
- 69 Lec.-22 Signal Conditioning Circuits-I
- 70 Lec.-23 Signal Conditioning Circuits-II
- 71 Lec.-24 Piezoelectric Sensors
- 72 Lec.-25 Ultrasonic Sensors
- 73 Lec.-30 Synchro
- 74 Lec.-31 Dissolved Oxygen Sensors-I
- 75 Lec.-32 Dissolved Oxygen Sensors-II

Power System Analysis by Sinha, A.K., IIT, Khadagpur

- 76 Lec.-01 Introduction
- 77 Lec.-02 Introduction to Single line Diagram, Symbols used for PS components, Introduction to per unit Representation, Selection of Base Quantities, Advantages of PU System
- 78 Lec.-03 Transmission Line Parameters
- 79 Lec.-04 Inductance Calculation (Three Phase)
- 80 Lec.-05 Transmission line Capacitance
- 81 Lec.-06 Transmission line Capacitance (Contd.)
- 82 Lec.-07 Transmission line Modeling
- 83 Lec.-08 Transmission line Modeling long line (contd.)

Transmission Lines by Shevgaonkar, R.K., IIT, Bombay

- 84 Lec.-01 Electromagnetic Waves
- 85 Lec.-02 Transmission lines & E.M. Waves
- 86 Lec.-03 Transit Time Effect, Distributed elements, differential equations for voltage and current, voltage and current waves, propagation constant
- 87 Lec.-05 Loss-Less Transmission Line
- 88 Lec.-06 Impedance Transformation Relation
- 89 Lec.-07 Graphical Approach
- 90 Lec.-09 Identification of load from standing wave pattern

- 91 Lec.-10 Measurement of unknown Impedance
- 92 Lec.-11 Impedance Measurement, Circuit element, step-up Transformer, Impedance Matching
- 93 Lec.-13 Lossy Transmission Line
- 94 Lec.-15 Measurement of Impedance
- 95 Lec.-16 Cartesian Coordinates
- 96 Lec.-17 Curl of Vector F
- 97 Lec.-20 Boundary Conditions
- 98 Lec.-21 Unbound, isotropic, Homogeneous
- 99 Lec.-23 Wave Polarization
- 100 Lec.-24 State of polarization
- 101 Lec.-25 Medium with Finite Conductivity
- 102 Lec.-26 Good Conductor
- 103 Lec.-27 Power flow in an EM Wave
- 104 Lec.-28 Surface current & Power Loss in a Conductor
- 105 Lec.-30 Plane Wave at Media Interface
- 106 Lec.-31 Reflection & Refraction at Dielectric Interface
- 107 Lec.-33 Incident Wave
- 108 Lec.-34 Reflection from Conducting Boundary
- 109 Lec.-35 Parallel Plane Wave Guide
- 110 Lec.-37 Analysis of Waveguide General Approach

Wireless Communication by Bose, Ranjan, IIT, Delhi

- 111 Lec.-01 Motivation and Introduction
- 112 Lec.-02 Types of wireless Communication
- 113 Lec.-03 The modern wireless Communication Systems
- 114 Lec.-04 The cellular concept - System Design issues
- 115 Lec.-05 Cell capacity and reuse
- 116 Lec.-06 Interference and System capacity
- 117 Lec.-07 Improving coverage and system capacity
- 118 Lec.-08 Mobile Radio Propagation
- 119 Lec.-09 Mobile Radio Propagation Contd
- 120 Lec.-10 Mobile Radio Propagation Contd
- 121 Lec.-11 Mobile Radio Propagation Contd
- 122 Lec.-12 Mobile Radio Propagation Contd

- 123 Lec.-13 Mobile Radio Propagation Contd
- 124 Lec.-14 Mobile Radio Propagation II
- 125 Lec.-15 Mobile Radio Propagation II
- 126 Lec.-16 Mobile Radio Propagation II
- 127 Lec.-17 Mobile Radio Propagation II
- 128 Lec.-18 Mobile Radio Propagation II
- 129 Lec.-19 Mobile Radio Propagation II
- 130 Lec.-20 Mobile Radio Propagation II Contd-lec20
- 131 Lec.-28 Modulation Techniques for Mobile Communications
- 132 Lec.-29 Equalization and Diversity Techniques
- 133 Lec.-30 Equalization and Diversity Techniques
- 134 Lec.-31 Equalization and Diversity Techniques
- 135 Lec.-32 Equalization and Diversity Techniques
- 136 Lec.-33 Coding Techniques for Mobile Communications
- 137 Lec.-34 Coding Techniques for Mobile Communications
- 138 Lec.-35 Coding Techniques for Mobile Communications
- 139 Principles of Modern CDMA MIMO OFDM Wireless Communications by Prof. Aditya K. Jagannatham,
- 140 Lec.-01 Evolution of Wireless Communication Technologies
- 141 Lec.-02 Modeling Wireless Channel
- 142 Lec.-03 Wireless Fading Channel Model
- 143 Lec.-04 Fading Channel Distribution
- C Programming, NPTEL**
- 144 Lec.-01 Intro - Process of programming-mod01
- 145 Lec.-02 Intro - GCD-mod01
- 146 Lec.-03 Intro - Programming cycle-mod01
- 147 Lec.-04 Intro - Tracing a simple program-mod01
- 148 Lec.-05 Intro - Variables-mod01
- 149 Lec.-06 Intro - Operators-mod01
- 150 Lec.-07 Loops - While-mod01
- 151 Lec.-08 Loops - While example-mod01
- 152 Lec.-09 Loops - While GCD example-mod01
- 153 Lec.-10 Loops - Longest 1-mod01(2)

- 154 Lec.-11 Loops - Longest 2-mod01
- 155 Lec.-12 Loops - Longest 3-mod01
- 156 Lec.-13 Loops - Do-while-mod01
- 157 Lec.-14 Loops - Matrix using nested loops-mod01
- 158 Lec.-15 Loops - For-mod01
- 159 Lec.-16 Loops - Matrix using nested for loops-mod01
- 160 Lec.-17 Loops - Break statement-mod01
- 161 Lec.-18 Loops - Continue statement-mod01
- 162 Lec.-19 Loops - Continue statement example-mod01
- 163 Lec.-20 Data types in C-mod01
- 164 Lec.-21 ASCII code-mod01
- 165 Lec.-22 Operators Expressions Associativity-mod01
- 166 Lec.-23 Precedence of operators-mod01
- 167 Lec.-24 Expression evaluation-mod01(2)
- 168 Lec.-25 Functions - Introduction-mod01
- 169 Lec.-26 Functions - How functions are executed-mod01
- 170 Lec.-27 Functions - Examples - 1-mod01
- 171 Lec.-28 Functions - Examples - 2-mod01
- 172 Lec.-29 Arrays in C-mod01
- 173 Lec.-30 Initializing arrays-mod01(2)
- 174 Lec.-31 Initializing character arrays-mod01
- 175 Lec.-32 Pointers in C-mod01
- 176 Lec.-33 Pointer arithmetic-mod01

Adaptive Filter, by Srivastava, Rahul , NPTEL

- 177 Lec.-16 Introduction to Adaptive Filters

Cognitive Radio, NPTEL

- 178 PPT Cooperative spectrum sensing in cognitive radio
- 179 PPT Cooperative Spectrum Sensing with Cluster-Based Architecture in Cognitive Radio Networks.wmv
- 180 PPT DalalKapil_EEE6509_Project_video
- 181 PPT PERFORMANCE EVALUATION OF COOPERATIVE SPECTRUM SENSING IN COGNITIVE RADIO NETWORK
- 182 PPT Seminar Report on 5g Technology

Probability and Random Process_Communication Engineering by Prof. Prasad Surendra, IIT, Delhi

- 183 Lec.-27 Review of Probability Theory and Random Process
- 184 Lec.-28 Review of Probability Theory and Random Variables
- 185 Lec.-29 Random Processes
- 186 Lec.-30 Random Processes
- 187 Lec.-31 Random Processes
- 188 Lec.-32 Gaussian Random Processes

Small Science With a Big Future- Breakthroughs in Nanotechnology by Stanford University

- 189 Lec. Small Science With a Big Future- Breakthroughs in Nanotechnology

Engineering Mathamatics-I, by Srivastava, P D - IIT, Khadagpur

- 190 Lec.-01 Rolles Theorem
- 191 Lec.-02 Genaralized Mean Value Theorem and L' Hospital Rule
- 192 Lec.-03 Interminate Forms
- 193 Lec.-04 Taylor's and maclaurin formula
- 194 Lec.-05 Asyamptote
- 195 Lec.-06 convexity, concavity and point of inflection
- 196 Lec.-07 curvature of a curve
- 197 Lec.-08 Functions of several variables, concepts of limits
- 198 Lec.-09 Concept of continuity
- 199 Lec.-10 Partial Derivatives
- 200 Lec.-11 Total derivative of composite function
- 201 Lec.-12 Partial Derivative of higher order
- 202 Lec.-13 Taylor formula for function of two variables
- 203 Lec.-14 Maximum and minimum of a function of several variables
- 204 Lec.-15 Lagrange's method of multipliers
- 205 Lec.-16 Tutorial-I
- 206 Lec.-17 Tutorial-II
- 207 Lec.-18 Tutorial-III(Problem based on Euler's theorem)
- 208 Lec.-19 Differential equation of first order and first degree-introduction
- 209 Lec.-20 Liner equations and Bernouli's form & Homogeneous Equations
- 210 Lec.-21 Exat Differential equations
- 211 Lec.-22 Higher Order linear differencial equations

- 212 Lec.-23 Higher Order linear differential equations (contd..)
- 213 Lec.-24 Higher Order linear differential equations (contd..)
- 214 Lec.-25 System of simultaneous linear equations with constant coefficients
- 215 Lec.-26 System of simultaneous linear equations with constant coefficients (contd.) & Tutorial
- 216 Lec.-27 Introduction to complex number system
- 217 Lec.-28 Various concepts in the complex plane
- 218 Lec.-29 Limit and continuity
- 219 Lec.-30 Differentiability and Analyticity
- 220 Lec.-31 Continue (Analytic function), Harmonic Function
- 221 Lec.-32 Integration of Complex Functions
- 222 Lec.-33 Integration of Complex Functions (Contd.)
- 223 Lec.-34 Cauchi Integral Theorem
- 224 Lec.-35 Cauchy Integral Formula
- 225 Lec.-36 Power Series, Taylor's Formula
- 226 Lec.-37 Taylor's Series and Laurent Series
- 227 Lec.-38 Laurent Series (Contd.)
- 228 Lec.-39 Zeros, Singularities and Residues

Electrical Machine-I, by Bhattacharya, T K , IIT, Khadagpur

- 229 Lec.-01 Review of Circuit Concepts (Review-1)
- 230 Lec.-02 Concepts of active & reactive Power (Review-2)
- 231 Lec.-03 Magnetic circuit & Magnetizing current
- 232 Lec.-04 Ideal Transformer- Its Properties
- 233 Lec.-05 Phasor Diagram & Equivalent Circuit of I.T - Referred to both sides
- 234 Lec.-06 Bringing Realities to Ideal Transformer : Finite Magnetising Current
- 235 Lec.-07 Taking into account the Core Loss : Eddy Current Loss & Hysteresis Loss
- 236 Lec.-08 Effecting of winding resistances & Leakage fluxes - Exact & Approx. Equivalent circuit
- 237 Lec.-09 Determination of equivalent circuit parameters from O.C & S, C tests
- 238 Lec.-10 Losses, Efficiency & All Day efficiency
- 239 Lec.-11 Regulation - Its Importance & Expression
- 240 Lec.-12 A Typical numerical Problem
- 241 Lec.-13 Two winding transformer as Autotrans
- 242 Lec.-14 Types of Three phase transformer & basic connections
- 243 Lec.-15 Vector Groups - Various connections in detail

- 244** Lec.-16 A Single unit 3- phase transformer Vs Bank of 3-phase transformer
- 245** Lec.-17 Zig-Zag connections
- 246** Lec.-18 Effect of Harmonic Magnetising Current
- 247** Lec.-19 Phase Conversion - 3 - phase to 6-phase/1 2-phase and 2- phase
- 248** Lec.-20 Per phase equivalent circuit of a 3-phase transformer - A typical problem
- 249** Lec.-21 Parallel operation of transformers
- 250** Lec.-22 Parallel operation continued and sumpner's test
- 251** Lec.-23 Basic concepts of generator & motor operation
- 252** Lec.-24 Electrical & Mechanical degrees and conditions for production of electromagnetic
- 253** Lec.-25 MMF distribution in rotating machine & elementary 3-phase winding
- 254** Lec.-26 Production of Rotating Magnetic Field-its speed & direction
- 255** Lec.-27 Expression for induced voltage in a coil due to relative motion wrt a field
- 256** Lec.-28 Expression for resultant voltage across a number of series connected distributed coils and winding factor
- 257** Lec.-29 Basic principle of operation of 3-phase Induction Motor and concept of slip
- 258** Lec.-30 Development of Equivalent circuit
- 259** Lec.-31 Concept of Air-Gap Power, Power Flow Diagram, Torque Production and Stable & Unstable Zone of Operation
- 260** Lec.-32 Torque-Slip Characteristic & Effect of various parameters on it
- 261** Lec.-33 Understanding the operation of Cage induction motor
- 262** Lec.-34 Slip Measurement. Introduction to Circle diagram
- 263** Lec.-35 Torque Line & Output Line, construction of Circle Diagram From Test Data
- 264** Lec.-36 Slip Line and usefulness of circle diagram - an Example
- 265** Lec.-37
- 266** Lec.-38 Speed control of induction motor - Some Basic Principles