

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)

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- 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