

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

NPTEL Video Course - Electronics and Communication Engineering - Advanced VLSI Design

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Co-ordinating Institute - IIT - Bombay

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

- Lecture 1 - Historical Perspective and Future Trends in CMOS VLSI Circuit and System Design - Part I
- Lecture 2 - Historical Perspective and Future Trends in CMOS VLSI Circuit and System Design - Part II
- Lecture 3 - Logical Effort - A way of Designing Fast CMOS Circuits - Part I
- Lecture 4 - Logical Effort - A way of Designing Fast CMOS Circuits - Part II
- Lecture 5 - Logical Effort - A way of Designing Fast CMOS Circuits - Part III
- Lecture 6 - Power Estimation and Control in CMOS VLSI circuits - Part I
- Lecture 7 - Power Estimation and Control in CMOS VLSI circuits - Part II
- Lecture 8 - Low Power Design Techniques - Part I
- Lecture 9 - Low Power Design Techniques - Part II
- Lecture 10 - Arithmetic Implementation Strategies for VLSI - Part I
- Lecture 11 - Arithmetic Implementation Strategies for VLSI - Part II
- Lecture 12 - Arithmetic Implementation Strategies for VLSI - Part III
- Lecture 13 - Arithmetic Implementation Strategies for VLSI - Part IV
- Lecture 14 - Interconnect aware design
- Lecture 15 - Interconnect aware design
- Lecture 16 - Interconnect aware design
- Lecture 17 - Introduction to Hardware Description Languages
- Lecture 18 - Managing concurrency and time in Hardware Description Languages
- Lecture 19 - Introduction to VHDL
- Lecture 20 - Basic Components in VHDL
- Lecture 21 - Structural Description in VHDL
- Lecture 22 - Behavioral Description in VHDL
- Lecture 23 - Introduction to Verilog
- Lecture 24 - FSM + datapath (GCD example)
- Lecture 25 - FSM + datapath (Continued...)
- Lecture 26 - Single Cycle MMIPS
- Lecture 27 - Multicycle MMIPS
- Lecture 28 - Multicycle MMIPS  $\hat{A}$  FSM
- Lecture 29 - Brief Overview of Basic VLSI Design Automation Concepts

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

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- Lecture 30 - Netlist and System Partitioning
- Lecture 31 - Timing Analysis in the context of Physical Design Automation
- Lecture 32 - Placement algorithm
- Lecture 33 - Introduction to VLSI Testing
- Lecture 34 - VLSI Test Basics - I
- Lecture 35 - VLSI Test Basics - II
- Lecture 36 - VLSI Testing
- Lecture 37 - VLSI Testing
- Lecture 38 - VLSI Testing
- Lecture 39 - VLSI Design Verification
- Lecture 40 - VLSI Design Verification
- Lecture 41 - VLSI Design Verification
- Lecture 42 - VLSI Design Verification