NPTEL Video Course - Electronics and Communication Engineering - VLSI Circuits

Subject Co-ordinator - Prof. S. Srinivasan

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction to VLSI Design
Lecture 2 - Combinational Circuit Design
Lecture 3 - Programmable Logic Devices
Lecture 4 - Programmable Array Logic
Lecture 5 - Review of Flip-Flops
Lecture 6 - Sequential Circuits
Lecture 7 - Sequential Circuit Design
Lecture 8 - MSI Implementation of Sequential Circuits
Lecture 9 - Design of Sequential Circuits using One Hot Controller
Lecture 10 - Verilog Modeling of Combinational Circuits
Lecture 11 - Modeling of Verilog Sequential Circuits - Core Statements
Lecture 12 - Modeling of Verilog Sequential Circuits - Core Statements(Continued.)
Lecture 13 - RTL Coding Guidelines
Lecture 14 - Coding Organization - Complete Realization
Lecture 15 - Coding Organization - Complete Realization (Continued.)
Lecture 16 - Writing a Test Bench
Lecture 17 - System Design using ASM Chart
Lecture 18 - Example of System Design using ASM Chart
Lecture 19 - Examples of System Design using Sequential Circuits
Lecture 20 - Examples of System Design using Sequential Circuits (Continued.)
Lecture 21 - Microprogrammed Design
Lecture 22 - Microprogrammed Design (Continued.)
Lecture 23 - Design Flow of VLSI Circuits
Lecture 24 - Simulation of Combinational Circuits
Lecture 25 - Simulation of Combinational and Sequential Circuits
Lecture 26 - Analysis of Waveforms using Modelsim
Lecture 27 - Analysis of Waveforms using Modelsim (Continued.)
Lecture 28 - ModelSim Simulation Tool
Lecture 29 - Synthesis Tool

Lecture 30 - Synthesis Tool (Continued.)
Lecture 31 - Synplify Tool - Schematic Circuit Diagram View
Lecture 32 - Technology View using Synplify Tool
Lecture 33 - Synopsys Full and Parallel Cases
Lecture 34 - Xilinx Place & Route Tool
Lecture 35 - Xilinx Place & Route Tool (Continued.)
Lecture 36 - PCI Arbiter Design using ASM Chart
Lecture 37 - Design of Memories - ROM
Lecture 38 - Design of Memories- RAM
Lecture 39 - Design of External RAM
Lecture 40 - Design of Arithmetic Circuits
Lecture 41 - Design of Arithmetic Circuits (Continued.)
Lecture 42 - Design of Arithmetic Circuits (Continued.)
Lecture 43 - System Design Examples
Lecture 44 - System Design Examples (Continued.)
Lecture 45 - System Design Examples (Continued.)
Lecture 46 - System Design Examples (Continued.)
Lecture 47 - System Design Examples (Continued.)
Lecture 48 - System Design Examples using FPGA Board
Lecture 49 - System Design Examples using FPGA Board (Continued.)
Lecture 50 - Advanced Features of Xilinx Project Navigator
Lecture 51 - System Design Examples using FPGA Board (Continued.)
Lecture 52 - System Design Examples using FPGA Board (Continued.)
Lecture 53 - System Design Examples using FPGA Board (Continued.)
Lecture 54 - System Design Examples using FPGA Board (Continued.)
Lecture 55 - Project Design Suggested for FPGA/ASIC Implementations