VLSI

MODULE 1: INTRODUCTION to VLSI

- History of VLSI
- VLSI Design Flow
- ASIC Vs FPGA
- RTL Design Methodologies
- Application of VLSI

MODULE 2: DIGITAL DESIGN

- Introduction to Digital Electronics
- Universal Logic Elements
- Latches and Flip-Flops
- Binary, Arithmetic and Boolean Design
- Combinational Circuits
- Sequential Circuits
- Shift Registers and Counters
- ALU Circuits
- Memories and PLD
- Finite State Machine

MODULE 3: CMOS

- MOS Fundamentals and Characteristics
- Nmos/Pmos/Cmos Technologies
- Fabrication Principles
- Design with Cmos Gates
- Scaling Effects

MODULE 4: Verilog DESIGN

- Introduction to Verilog
- Applications of Verilog
- Data types
- Verilog Operators
- Declarations
- Gate Level Design
- Data Flow Design
- Structural Level Design

- Behavioral Level Design
- Tasks and Functions
- Test bench

MODULE 5: VHDL DESIGN

- Introduction to VHDL
- Application of VHDL
- VHDL Language Concepts
- Data Types
- VHDL Operators
- Data flow Modeling
- Structural Modeling
- Behavioral Modeling

Introduction about IC Design