

About CRISP

CRISP is established under Indo-German Cooperation agreement as an autonomous organisation of the Dept. of Technical Education and Skill Development, Govt. of M.P.

CRISP provides technical training and consultancy services for Industry Personnel, Government Officers, Faculties of academic and teaching institutions, Students and Jobseekers. CRISP is equipped with the state-of-the-art equipment and technology, latest software, qualified, trained and experienced trainers in the relevant fields.

CRISP has its head office in Bhopal and training centres at several national and international locations.

Other training programmes in Electrical and Electronics offered at CRISP are :

- MMI
- MATLAB
- AC/DC Drive
- WinCC SCADA
- PLC Networking
- Industrial Automation
- Fiber Optic Networking
- Electronics Maintenance
- Embedded System Design
- Field Instrumentation & Control
- PLC Programming and Application
- Electrical Control & Relay Logic Application



Patron Clients of CRISP



Contact :

Course Co-ordinator

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Centre for Research and Industrial Staff Performance

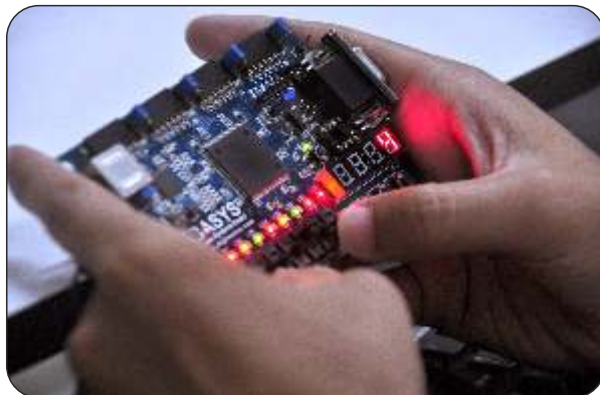
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VLSI DESIGN



...unleashing the full potential of men & machines

VLSI DESIGN



Introduction of Course

Integrated Circuits at a very basic level involve SSI (small scale integration) circuits like logic gates or MSI (medium scale integration) circuits like multiplexers, parity encoders, etc.

At a higher level we have the VLSI (Very Large Scale Integration) which involves miniaturisation at levels where a micrometer and a microsecond are literally considered huge. VLSI involves packing more and more logic devices into smaller and smaller areas.

VLSI circuits are everywhere – in computers, cars, digital cameras, cell-phones, and many more. It has inevitably opened up a big opportunity for Industries.

CRISP has developed facilities to impart practical training on VLSI. Our VLSI lab is equipped with industry standard EDA tools like Altera & XILINX softwares' and universal FPGA/CPLD/ASIC boards.

Course Contents

VLSI – an introduction

- VLSI Design flow
- Overview of ASICs & Programmable IC.
- VLSI Design Styles (Front End & Back End)
- VLSI Design Technologies
- Digital Design Fundamentals
- Electronic Design Automation Tools. (Xilinx, Altera, Dsch, Microwind)

CMOS Circuit Designing

- Basic CMOS Technology
- MOS Transistor Theory
- Introduction to CMOS circuit
- Digital circuit design using MOS transistors
- Stick Diagram & Physical representation (NMOS and PMOS)
- IC Fabrication Concepts

CMOS Layout Designing

- Layout Design Technology
- Layout Design Styles and Design Rules
- Standard Cell Layout Designing
- Layout Optimization for Speed, Power & Area

- Layout Verification using DRC (Design Rule Checker)

Designing with HDL (hardware description language)

- Introduction to VHDL
- Structural modeling
- Dataflow modeling
- Behavioral modeling
- Designing circuit with VHDL

Simulation and synthesis issues

- Fundamental of simulation and synthesis.
- Simulation process and types of simulation and simulator

Implementation of digital circuits on programmable chips

- On CPLD's and FPGA's

Methodology

The programme consists of a mix of :

- Lectures & presentations
- Demonstrations
- Interactive discussions
- Hands-on practice

Pre-requisite

- Industry personnel with relevant experience
- Passouts or students pursuing Degree/ Diploma in Electronics/ Electrical/ Instrumentation Engineering or equivalent

Duration

Full time: 5 working days (7 hours/day)

Part time: Four weeks (20 working days, 2 hours/day)

Course Fee

Kindly refer to our training calendar at www.crispindia.com or can be obtained from CRISP counselling desk

Mode of Payment

Cash / Online / Debit / Credit Card