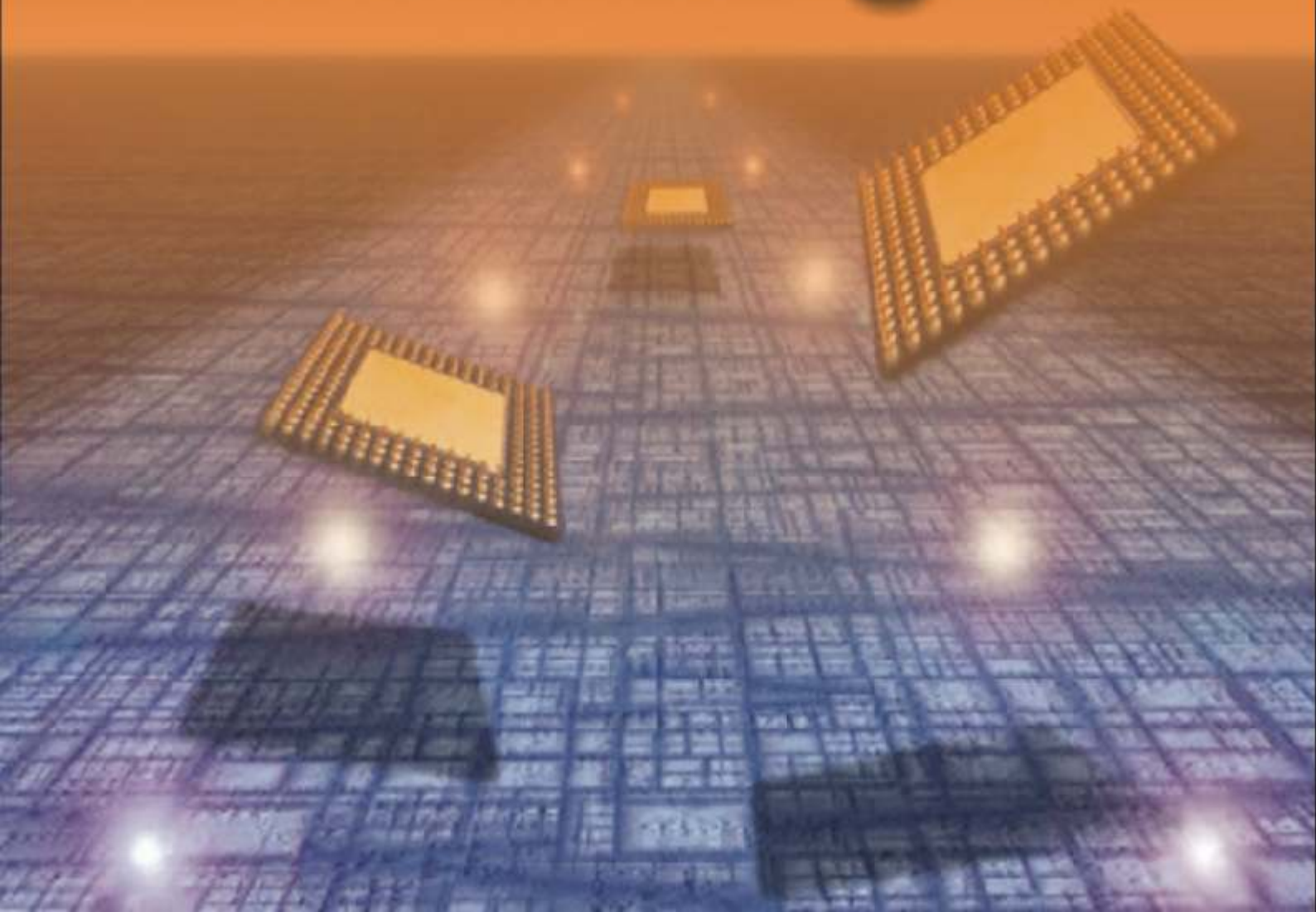




VLSI Design



About Us

UTL Technologies Ltd. a UTL Group company is one of INDIA's highly appreciated and widely recognized prominent high-end training organization is providing the world's most sought after professional Course in INDIA.

Backed with over 2 decades of technical know-how, we are providing the best-equipped comprehensive courses in cutting edge technologies with an aim of leveraging your careers to great heights. The courses are designed by experts from UTL's R&D division, considering today's industry requirements and keeping in mind that only DEGREE doesn't guarantee a great job. UTL has track record of placing more than 85% of the students in various companies.

UTL Technologies Ltd. Is known as a trailblazer in emerging technologies training. No other Institute offers such a comprehensive and innovative training on a vibrant spectrum of new technologies. In keeping with our established ethos, we work only in niche areas like **EMBEDDED SYSTEM, VLSI DESIGN, MOBILE COMMUNICATION and NETWORKING.**

Overview

Today every activity revolves around electronics, which in-turn revolve around the Integrated circuit - IC's or more commonly known as Chip. The Integrated circuit is today the driver of the future, the innermost key of the Electronic Universe, the crude oil of the 21st century. In 2005 alone the world's IC consumption was \$192.4 billion. Next three years Asia-Pacific will grow by 69% reaching \$150.4 billion a year. With huge investment planned in India by companies like **AMD, Intel, Cisco**, etc. each ranging more than a billion dollar and with many other companies following the suit, India is poised to grow as one of the biggest hub in semiconductor industry. **NASSCOM** as projected a huge shortfall of manpower. Keeping all these in mind **UTL Technologies** A UTL Group company has launched Advance Post Graduate Diploma in VLSI Design. This unique course by the industry will enable the student equip with the industry requirements.

Course Highlights

- ◆ Exposure to the complete design process pertains to ASIC and FPGA
- ◆ Thorough understanding to fundamentals, expectancy Digital Design and the Hardware description languages.
- ◆ Industry standards tools for lab works and project executions.
- ◆ Advanced course comprises of verification and ASIC topic, This module is executed @ our Corporate Office in Bangalore along with the project execution.

Eligibility

Engineering degree in Electronics, Electrical, Telecommunication, computer science Instrumentation, CS, or Experienced electronic designer, developer, system integrators from the hardware industry and R&D Organizations. Students appearing for final examination in engineering can apply.

Selection Procedure

Selection will be based on performance in the entrance test and personal interview only.

Entrance test

The entrance test will be based on digital fundamentals, microprocessor architecture, analog circuits and aptitude. The candidates can appear for entrance test at any time and the results will be declared on the spot.

Certification

After successful completion of the course the student will be awarded an Advance Post Graduate Diploma in VLSI Design by UTL Technologies Ltd.

Our Credentials

- | | |
|------------------------------|--|
| ◆ 6000+ students trained | ◆ 4500+ placed in top notch IT Companies |
| ◆ 3000+ strong Alumni | ◆ 100+ companies employing our students |
| ◆ 100+ corporate batches | ◆ 70 External Technical consultants |
| ◆ 45 In-house technical team | ◆ 14 group companies supporting us |
| ◆ 9 operating locations | ◆ 6 years of rich experience |

Course Contents

Module 1 (Front End)

Digital Electronics

STA

VHDL

Verilog

SIMULATION & SYSTHESIS

PLD

Introduction to Digital Systems, difference between digital and analog design, Basic Gates, Combinational logic design, how to design combination logic, Sequential logic, Synchronous & Asynchronous, FSM, Sequential designs, Mealy & Moore machine, Optimization, projects on FSM Language elements, Expressions, Gate level modeling, User defined primitives Blocking & Non-blocking assignments, Timing controls, File IO, Compiler directives, Delay, Data flow, Behavioral, Structural modeling, Tasks, Functions, Race condition, Verification, Test bench design & stimulus, Verilog and VHDL Synthesis, Coding style, PLI. Introductions to timing static and dynamic hazards, path delay, gate delay, metastability states. Sequential timing delays like set-up time, hold time, maximum frequency, violations, slew, slack. Delay analysis w.r.t. Sequential logic pad to set up, pad to pad, clk to next Reg, Reg to o/p and Reg to Reg. violations wrt sequential circuit. Why synthesis? Synthesis flow-optimization techniques, Verilog syntheses, Synthesis Tips, Guidelines, Pipelining, Register Balancing.

Module 2 (Verification)

System Verilog

Perl

Traditional verification approaches and issues related to it, The Verilog solution, Introduction to Coverage Driven Verification (CDV) methodology. Classes, Properties, dmethods, Constructors, Data hiding, Encapsulation, Polymorphism, Inheritance, Constrained-Random Generation, Random variables, The randomize () Function, Defining constraints. Coverage & assertions with tool related Scripting language PERL.

Module 3 (Back End)

ASIC Flow and Testing

Basics of CMOS includes - what is transistor, transistor acting as switch- basic designs like gates, muxes transmission gates, std cell design in layout, verifying DRC-LVS-RC extraction-finally simulating the design to check functionality. ASIC - after the Logic synthesis, Power, Timing, design, & area constraints - netlist is obtained physical design includes, partitioning of the design, floor planning- placement, STA (Static Timing analysis) Behavioral synthesis, Formal Verification, clock tree synthesis -DFT-ATPG test pattern generation-scan insertion boundary scan-BIST(built in self test), power grid placement, I/O placement, std cell placement, power consumption and analysis, global and detailed routing, Clock & Test insertion-final conversion to GDSII or EDIF format.

Course Duration

The Course duration is 396 hrs. - 99 Working Days (inclusive of Project)

Placements

We at UTL Technologies will try to make every student reach a platform from where the individual can be a part of the growing semi-conductor industry.

Previous students of UTL Technologies are placed with: Synopsis, ZTE, Idea, Samsung, LG, Motorola, Nokia, Hutch, Reliance, Philips, Sony, Axes Tech., Siemens, Wipro, Texas Satyam, Robert Bosch, IBM, Intel, Sasken, Acheiva, Actel, CG Core EL, E- Infochip, Convergys, Mphasis, VSNL, Aerospace Systems Pvt. Ltd, United Telecom Ltd., Integra, Micro Systems, Globle Edge, KPIT Cummins, Midas communications, Etc..



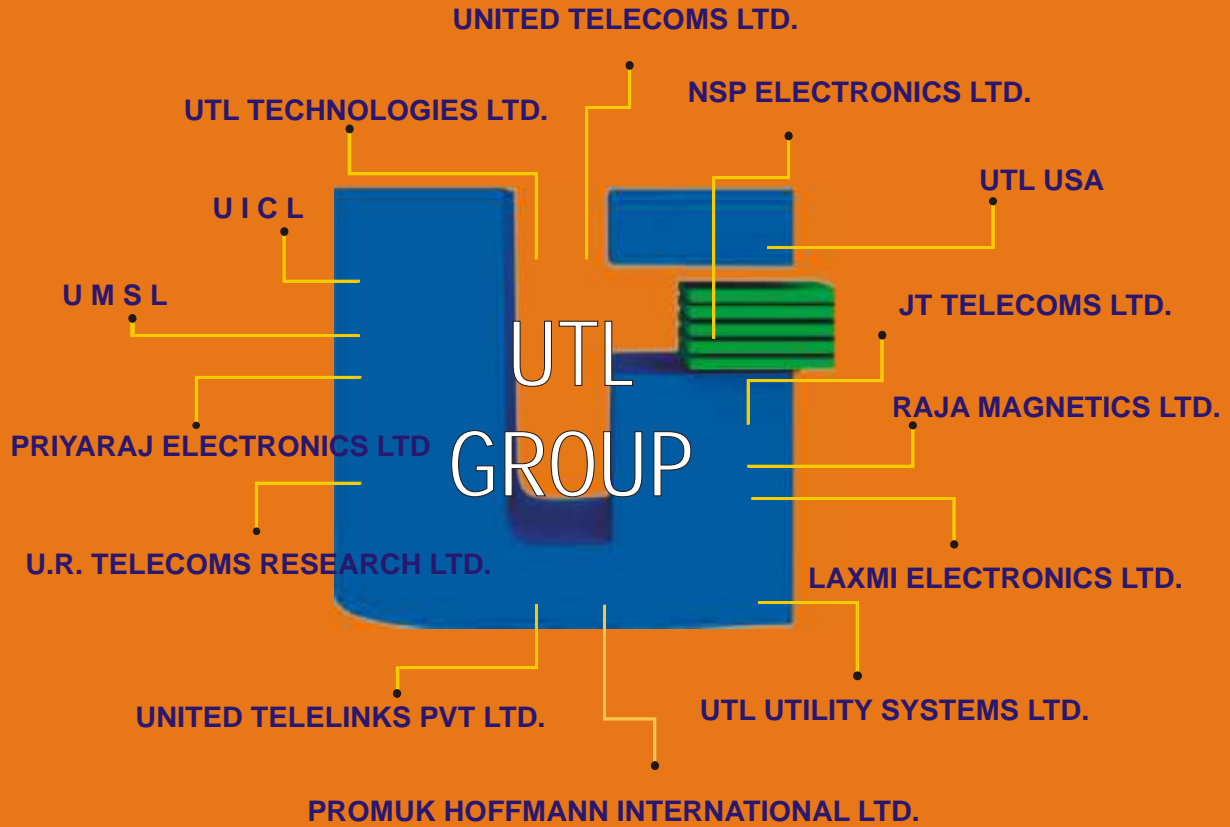
UTL Factory



UTL Group Corporate Office



UTL Technologies Corporate Office



UTL TECHNOLOGIES LTD
 BRIDGING ACADEMICS TO INDUSTRY
 Telecom Embedded VLSI Wireless Web-Solutions
 A U T L G R O U P C O M P A N Y

