

CAD Tools For VLSI Design Lab:



Objectives:

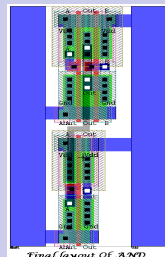
To configure and simulate CMOS Circuit & Systems also. It is possible to design of layout of various CMOS Circuits in micron, submicron and deep submicron level using Tanner Tools.

various CMOS Circuits in micron, submicron and deep submicron level using Tanner Tools.



Major equipments in the Lab:

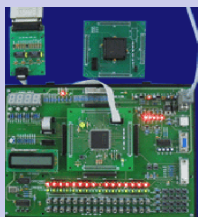
- License Tanner tools ,version 13.0
- CADENCE EDA Tool
- Visual TCAD
- Xilinx 14.7
- ALDEC ACTIVE HDL Software with an advanced FPGA Kit



Embedded Systems Lab:

Objective:

To focus on the definition of reliability-aware design, optimization methodologies and system-level exploration tools for high-performance embedded systems and nano-scale multi-processor system-on-chip (MPSoC) architectures. It is a cross-disciplinary facility with collaborative projects of TEQIP Phase II.



Major Equipments in the Lab:

- Universal Chip Burner
- DSO
- Stepper motor controller and other peripherals
- LCD Module controller and peripherals for microcontroller
- 8051 micro controller kit
- AVR microcontroller kit
- PIC microcontroller kit
- Spartan-6 FPGA kit

About the ECE Department



Prof.(Dr.) Maitreyi Ray (Kanjilal) - Being the Head of the Department of Electronics and Communication Engineering (ECE), I am delighted to express my

thoughts about the departmental growth. The average passing result is excellent in the department. Almost 10-15% students scored above 9 DGPA. The department of ECE offers premier professional technical training that keeps in pace with the latest developments in the field of Electronics and Communication Engineering. It offers four year full time B.Tech program in ECE and P.G. Program (M. Tech.) in ECE (Comm. Engg.) since 2009.

We have excellent infrastructure, highly experienced faculties and professionals associated with research work which collectively ensure dynamic and vibrant environment in the campus.

TEQIP-II

Scholarship provided to M.Tech students through out the four semesters

Narula Institute of Technology

81, Nilgunj Road; Agarpara

Kolkata-700109.

Ph: 033 2583 7777

Fax: 033 2583 7029

ECE

Department Narula Institute of Technology



M. Tech in:

- Electronics & Communication Engineering - 18 Seats
- Microelectronics & VLSI - 18 Seats

PCB Design Lab:

Objectives: To Learn PCB layout design for SMD (Surface mount devices) components. By the end of the course students should be able to Use Schematics to simulate a circuit, Use PCB to design a PCB for the circuit, Appreciate the stages involved in the manufacture of the PCB for the circuit, Construct the circuit, Use appropriate Electronics equipment to evaluate the behaviour of the circuit, Evaluate the overall performance of the circuit by comparing theory, simulated and practical results.

Major Equipments in the Lab:



*Basic & Advanced Printed Circuit Fabrication Lab station & 10 user PCB Layout Design Software Bundle.

*Soldering & de-soldering station for normal and SMD chips and components.

*Spectrum Analyzer.

*Digital Storage Oscilloscope.

DESIGN AND SIMULATION LAB:



Objectives: This is a laboratory in which students are required to show their innovativeness and understanding of the subject through software based programming. The laboratory comprises of the application of four years of study of Electronics & Communication Engineering.

Facilities available in Department:

1. In this laboratory there are sufficient number computers for the students and the ratio is 1:1 and hence they can work comfortably. Each of the systems is fully equipped with: **i) MATLAB 2013 ii) QUALNET 5.0 iii) INTERNET** 2. All the computers are facilitated with internet facility such that the students are able to surf for any information needed for developing and designing the experiments.

Softwares in M.Tech Lab:

- QUALNET 5.0
- OPNET
- MATLAB 7.0.1 (Mathwork)
- MATLAB 2013 (Mathwork)
- ISDN Kit
- MPLS
- HFSS
- License Tanner tools ,version 13.0
- CADENCE EDA Tool
- Visual TCAD
- Xilinx 14.7
- ALDEC ACTIVE HDL Software with an advanced FPGA Kit



ADVANCED COMMUNICATION LAB:

Objectives:

This is an Advance communication Laboratory in which the PG students get to study the latest advances in communication like the advance modulation techniques like MPSK, MSK and study the different antennas used for the purpose of communication. All these techniques facilitate long distance communication.

Major Equipment in the Lab 1. MPLS (Agilent) 2. Agilent IQ Signal Generator (IQG) software 3. Agilent VSA software 4. Agilent IO Libraries Suite software version 14.1 5. Optical fiber trainer kit (Scientech) 6. Optical fiber trainer kit for PC to PC communication (Scientech) 6. Transmission Line trainer kit (Lab Electronics) 7. Antenna Trainer kit (Scientech) 8. Microwave test bench (Vjhanthura/SICO) .

COMMUNICATION SYSTEMS LAB:

Objectives: This is Communication System Laboratory in which the PG students get to study the latest advances in communication like optical communication and wireless communication.



Major Equipment in the Lab

- Satellite Communication Trainer kit (Scientech)
- GSM trainer kit (Scientech)
- Mobile phone trainer kit (Scientech)
- Time division multiplexer and Demultiplexer (Scientech)
- Optical fiber trainer kit (Scientech)
- Optical fiber trainer kit for PC to PC communication (Scientech)
- Global Positioning system (Scientech)
- LASER trainer kit (Scientech)

