ECE LAB- VIII: UG VLSI LAB / PROJECT LAB (UG)

Objective of the Laboratory:

- Provide an overview of the fundamental principles of VLSI, ASIC / FPGA design.
- Give the understanding of the characteristics of CMOS circuit construction.
- Analyse the basic building blocks of large-scale digital integrated circuits.
- Help design functional units such as adders, multipliers, ROMs, and SRAMs.

Major Equipment:

Sr. No.	Equipment Name	Equipment Description
1.	Microwind 3.8	Allows the student to design and simulate an integrated circuit at physical description level. It includes all the commands for a mask editor as well as original tools never gathered before in a single module (2D and 3D process view, Verilog compiler, tutorial on MOS devices).
2.	Quartus II	This software enables creation and delivery of FPGA, CPLD and structures ASIC designs. The software support VHDL and Verilog HDL, design entry, graphical based design entry methods and integrated system level design tools.
3.	VLSI Trainer System	Universal Platforms for XILINX FPGA/CPLD devices.

4.	VLSI Interface Board	Provides a comprehensive, best-in-class design environment to develop a low-cost and low-power system-level designs.
5.	Daughter board for FPGA (ACEX) 1k50	SATA/SAS Daughter Card is designed to provide SATA interface conversion for FPGA platforms
6.	Daughter board for FPGA (ACEX) ep20k	Development and Education board is designed in a compact size with all the essential tools for novice users to gain knowledge in areas of digital logic, computer organization and FPGAs
7.	Daughter board for CPLD (9EPM) 3128	Development Board is designed to prototype most common FPGA applications (CPLDs).
8.	Daughter board for CPLD (EPM) 7128	Development Board is designed to prototype most common FPGA applications (CPLDs).
9.	Universal Communication Development Kit	Digital data in system can be encoded in several formats
10.	GSM/GPRS Development Board	Is complete tri-band GSM/GPRS solution in compact plug-in module
11.	Bluetooth Development Board	Serial port Bluetooth module, can directly stack on Arduino and use the UART port for Bluetooth communication.
12.	GSM Development board	Adding a remote monitoring and control to remote places by a GSM cellular network.
13.	QAM Modulation/Demodulation Kit	Initiates the user to various data conditioning and carrier modulation techniques
14.	2 Workstations & 8 Computer Systems	

Name of Officials handling Lab:

1. Dr. Jyoti Kedia (O/I)
2. Dr. Divya Dhawan (Joint O/I)
3. Mrs. Amita Chawla (Lab Foreman)
4. Mr. Rajesh Kumar (Lan Attendant)