

COURSE PROSPECTUS

Name of the Group: VLSI & Embedded System

Name of the Course: 8051 Microcontroller and Peripherals

Starting Date: April 03, 2017

Course Duration: 3 days

Time: 6 hours per day (10 AM-1 PM) & (2:00 PM - 5:00 PM)

Preamble: Given the growing demand for skilled professionals, and the rapid changes in technology, there is a need that students should be taught about the basics of embedded system. The course has been designed to meet this requirement. This basic course on 8051 microcontroller s designed with a proper balance of theory with practice, so that students get enough hands on experience.

Objective of the course: This course focuses on complete working of 8051 microcontroller and its interfacing with peripherals.

Outcome: After completion of this course one will be able to develop small applications based on 8051 microcontroller.

Contents

1. Overview and architecture of 8051

- Introduction to microcontrollers,
- Basic components of 8051
- Block Diagram
- Register set and Pin description
- RAM Organization, SFR, Timers
- Instruction set.

2. Basics of Embedded C

- Introduction to 'C' programming,
- Storage Classes,
- Data Types,
- Controlling program flow,
- Arrays, Functions,
- Bitwise operations,
- Writing code for 8051

3. Introduction to Keil and Proteus

- Introduction to IDE
- Components of IDE
- Debugger
- Keil μ Vision IDE
- Introduction to Proteus
- Using Proteus Simulator

4. Interfacing with Peripherals

- Interfacing with LED
- Interfacing with switch
- Interfacing with DC motor
- Interfacing with 7 Segment display
- Interfacing with LCD
- Interfacing with Keypad

Course Structure

Module Name & Contents	Duration (hours)
1. Overview and architecture of 8051	04 (day 1)
2. Basics of Embedded C	02 (day 1)
3. Introduction to Keil and Proteus	06 (day2)
4. Interfacing with Peripherals	06 (day 3)

Lab facilities: 8051 universal board, daughter board, interfacing kits

Other Contents

- a. **Course Fees:** 1,500/- service tax extra.
- b. **Eligibility:** Engg. Diploma and B.E./B.Tech. is needed (B.Tech. pursuing candidates may also apply).
- c. **Number of Seats :** 20
- d. **Selection of candidates:** The selection of candidates is based on the qualification subject to eligibility and availability of seats.