

Training on Embedded System Using 8051 Microcontroller

Introduction:

This is a fully interactive study course on embedded system, design to teach the basic concept of embedded systems and it also helps to develop the concepts the advanced systems. All modules have an experiment which helps to taught properly. By this way hands on embedded system of the student developed. After the development of hands on embedded system a Project work is carried, if student agree to follow certain condition*. After successful completion of the training a certificate is provided.

The course is recommended for all the students from BE / B.Tech in Electronics and Telecommunication engineering, Computer Science engineering, Electronics and Instrumentation engineering, B.Sc or M.Sc. in Electronics and computer science.

Training Details:

Day-1:

- a) Introduction of embedded systems.
- b) Overview of digital and analog electronics.
- c) Overview of microcontroller and difference between microcontroller & microprocessor.

Day-2:

- d) 8051 architecture overview and special function register.
- e) 8051 programming model and assembly language programming.
- f) Some easy programming in assembly language.

Day-3:

- g) Introduction to 'C' for microcontroller.
- h) Study "Keil" compiler for 8051 microcontroller
- i) Some easy programming in assembly language.

Day-4:

- j) Port programming of microcontroller using C
- k) Use of in build Timer of 8051 microcontroller.
- l) UART programming in 8051 microcontroller.

Day-5:

- m) Study of communication protocol with application circuit
 - I) RS-232 and RS-485
 - I) SPI
 - II) Two wire
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Practical interaction with system electronics

Day-6:

- I) Driving Seven segment display using microcontroller.

Day-7:

- II) LCD (16*2)interfacing

Day-8:

- I) ADC IC interfacing.

Day-9:

- I) Interfacing of Serial EEROM IC (AT24C256).

Day-10:

- I) Keyboard interfacing

Day-11:

- I) Interactive class with student.

Day-12:

- I) One application using 8051 microcontroller.

***** END of TRAINING *****

One selected project on student's interest in a group. (* Condition apply)

Duration of the training: 12 days.

Minimum student required to commence of course : 2

Maximum student in a batch not exceed : 6