

**DEPARTMENT OF INSTRUMENTATION AND CONTROL
COLLEGE OF ENGINEERING, PUNE
SHIVAJINAGAR, PUNE-411005**

020-25507171

About the course Embedded System Design

(Special batch for working professionals)

Course Material: CD contains all the demo software, PPTs, one book
Every day 02 hrs (6.00 pm to 8.00 pm) for 05 day (Monday to Friday)

Course contents:

- Module 1: Digital system fundamentals, “C” language programming Concepts, Embedded “C”, compilers types.**
- Module 2: Architecture (89C51), Instruction set, memory structure, Introduction to “Keill cross-compiler and sample programs. Display device interfacing (LED’s, 7-segment LED’s, and LCD)**
- Module 3: Switch interfacing, matrix keyboard interfacing, interfacing of Keyboard with LCD and seven segment LED’s. Timers and Counters programming.**
- Module 4: Serial communication and its programming, ADC, DAC and stepper motor interfacing,**
- Module 5: I²C interfacing for RTC. Remote control interfacing. Project design concepts. Selection criterion for Microcontrollers.**
- Module 6: PIC (16F877A) Microcontroller introduction. Microchip tools (Assembler, compiler, simulator etc.) Programming using PIC 16Fxx series Microcontroller. Programming for On-chip interfacing and external interfacing includes (Timers, PWM, ADC, UART, I2C, and SPI)**

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Module 7:

REAL TIME OPERATING SYSTEMS

Linux Basics: An Overview of Red Hat/Fedora Core Linux, Installing Red Hat/Fedora Core Linux, Getting to Know Red Hat Linux, Linux commands Task and Task States, tasks and data, semaphores and shared Data Operating System. Services-Message queues-Timer Function-Events-Memory Management, Interrupt Routines in an RTOS environment, basic design Using RTOS. Porting Linux and RTLinux using ARM9 board. (Philips or, Cirrus Logic)

Note: We conduct the practical and assignments on actual hardware and uses Embedded “C” for programming.

For detail information mail to: dns@instru.coep.org.in

Contact on: 09822888944/ 02025507189

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**REGISTRATION FORM
Embedded System Design**

1. Name: _____
2. a. Designation: _____
b. Institute: _____
3. Mailing Address: _____

4. E-mail: _____
5. Phone (O) (R)
6. Educational Qualifications: _____

7. Experience: _____

Date:

Place: Signature of the Applicant