

SUMMER TRAINING PROGRAM 2013

(8051 and ARM)

Introduced By:



In Association with:



YD Tech Sourcing Pvt. Ltd.

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Summer Training Program 2013

- ❖ **Course Name:** 8051 & ARM
- ❖ **Course Duration:** 45 Days, 80/90hrs
- ❖ **Course Fee:** INR 8900 (Including Taxes)
- ❖ **Course Certification:** Certified by Matbotrix Technologies (Regd.) & YD Tech Sourcing Pvt. Ltd.
- ❖ **Course Level:** Advanced Level
- ❖ **Robotics Toolkit:** Free to Each Participant
- ❖ **Study Material:** Books & CDs free to each participant
- ❖ **Group discount:** Up to 15%
- ❖ **Website:** <http://www.matbotrix.com>

Course Content

1. Introduction to Embedded Systems

- Definition for embedded System
- Features of embedded system
- Applications of embedded systems
- Difference between CISC and RISC processors
- Difference between Von Neumann and Hardware systems
- Difference between processor and controllers
- About compilers, cross compilers and IDE (brief Discussion)

2. Microcontrollers

- What are Microcontrollers
- Need of Microcontrollers
- Selection criteria of Microcontrollers
- Introduction of 8/16/32 bit of microcontrollers

3. Intel 8051 Microcontroller

- Architecture of 8051
- Pin configuration of 8051

- Assembly language programming
- Hardware timers programming (T0/T1) in different modes
- UART programming
- Ports (P0/P1/P2/P3) programming
- Interrupts programming concept
- Serial ,timers, External interrupts programming

4. Introduction to Embedded C programming

- Data types, variables
- Arrays
- Functions
- Pointers
- Accessing I/O ports

5. Real World interfacing with 8051

- LED interfacing
- DC-stepper-servo motors interfacing
- Seven segment display interfacing
- LCD interfacing
- Multiplexed seven segment display interfacing
- Keypad interfacing
- Sensor interfacing using ADC

6. Introduction to ARM7 LPC2148

- Introduction to ARM based Embedded systems
- ARM processor fund
- Registers, Processor modes
- ARM7TDMI Architecture
- ARM7TDMI block diagram
- GPIO, timers, UART programming in Embedded C

7. RTOS (Real Time operating systems)

- Introduction to OS and RTOS
- Process Management and Inter Task Management
- Memory Management
- I/O Management
- File system Management
- Introduction to Real Time Embedded systems
- Real-Time scheduling
- Performance Merits of RTOS
- Configuring And Compiling
- Introduction to another RTOS

8. GSM

- Introduction to Bluetooth Technology.
- Demonstration of application development using GSM Module

9. RFID

- Introduction to RFID Technology.
- Demonstration of application development using RFID Module