



RobosapiensTM
INDIA

Course & Kit Content

Of

8051/8052 Embedded Systems

Duration 7 Days

Kit Partner

ROBOMART.com

Corporate Office

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Course Name : **8051 / 8052 Embedded Systems**
Certification : By Robosapiens Technologies Pvt. Ltd.
Fee : Rs. 5900/- Only (Including All Taxes)
Toolkit : **FREE** to Each Participant

Detailed Course Content

1. Introduction to Embedded Systems

- 1.1. History of Embedded
- 1.2. Why Embedded System
- 1.3. How Embedded System works
- 1.4. Application of Embedded System
- 1.5. Current Industrial Embedded System
- 1.6. Future of Embedded System

2. Anatomy of Embedded Systems

- 2.1. What are Basic Modules?
- 2.2. Why Need of Basic Modules
- 2.3. Working Approach on Embedded System

3. Introduction of Electronic Components

- 3.1. What is Electronic Component?
- 3.2. History of Electronic Component
- 3.3. Various Electronic Component
- 3.4. Application of Electronic Component
- 3.5. How to use Electronic Component

4. Introduction to Sensors

- 4.1. What is Sensor?
- 4.2. Various Basic Industrial Sensors-IR- Analog Sensor
- 4.3. IR Digital Sensor

- 4.4. Light Sensor
- 4.5. Sound Sensor
- 4.6. Selection of Sensor
- 4.7. Basic working Technique of Sensor
- 4.8. Application of Sensor
- 4.9. How to Interface Sensor

5. Introduction to Computational Devices

- 5.1. What is Computational Device?
- 5.2. Transistor
- 5.3. Logic Gates
- 5.4. Microprocessor
- 5.5. Microcontroller
- 5.6. Difference B/W Various Computational Devices
- 5.7. Application of various Computational Devices
- 5.8. Selection of Computational Devices
- 5.9. How to use Various Computation Devices
- 5.10. Work on 8051 Family with S Series

6. Introduction to Programming Languages

- 6.1. Various programming Languages
- 6.2. Selection of programming Language
- 6.3. Need of Flow Diagram
- 6.4. How to write First "LED BLINKING" Code in Embedded C
- 6.5. Why always First "LED BLINKING" Code?
- 6.6. Practice on various LED Pattern
- 6.7. Debugging of Error Program

7. Interfacing to Actuator

- 7.1. What is Actuator?

8. How to work on Educational & Engineering Level Actuator

- 8.1. DC Motor
- 8.2. DC Geared Motor
- 8.3. Stepper Motor
- 8.4. Servo Motor

9. How to Drive Motor

- 9.1. H-Bridge Motor Drive
- 9.2. Advanced Motor Driver

10. Introduction to LCD Display

- 10.1. Pin Description of 16x2 LCD Display
- 10.2. Application of 16x2 LCD Display
- 10.3. Programming of 16x2 LCD Display

11. Introduction to 7-Segment Display

- 11.1. What is 7-Segment Display
- 11.2. Types of 7- Segment Display
- 11.3. Application of 7-Segment Display
- 11.4. Programming of 7-Segment Display

12. Introduction to 4-bit Keypad and Matrix Keypad

- 12.1. Use of Keypad
- 12.2. How it works
- 12.3. Interfacing of keypad of your application
- 12.4. Programming of 4-bit Keypad and Matrix Keypad

LIVE Projects Covered

1. LED Blinking
2. Running LEDs
3. Sand Glass Filling of LEDs
4. Decoration LEDs/ LED Patterns Etc.
5. Sensor Interfacing (DEMO)
6. DC Motor Driving (DEMO)
7. DC Motor Driving using 4Bit Keypad (DEMO)
8. Stepper Motor Driving (DEMO)
9. Displaying your Name on LCD
10. Blinking Text on LCD
11. Scrolling Text on LCD
12. Automatic Counting of Numbers using LCD
13. Seven Segment Display
14. Seven Segment Multiplexing
15. Matrix Keypad Interfacing
16. Digital Visitor Counter(DEMO)
17. Traffic Light Controller

7 Days KIT Contains

S. No.	Name of the Component	Quantity	Figure
1	8051 Development Board	1	
2	USB Programmer	1	
3	2X16 LCD Display	1	
4	Robosapien's Educational and Software Material CD	1	
5	8 PIN Wire	1	
6	6 PIN Wire	1	
7	4 PIN Wire	2	
8	3 PIN Wire	1	
9	Paper Beg/Box	1	