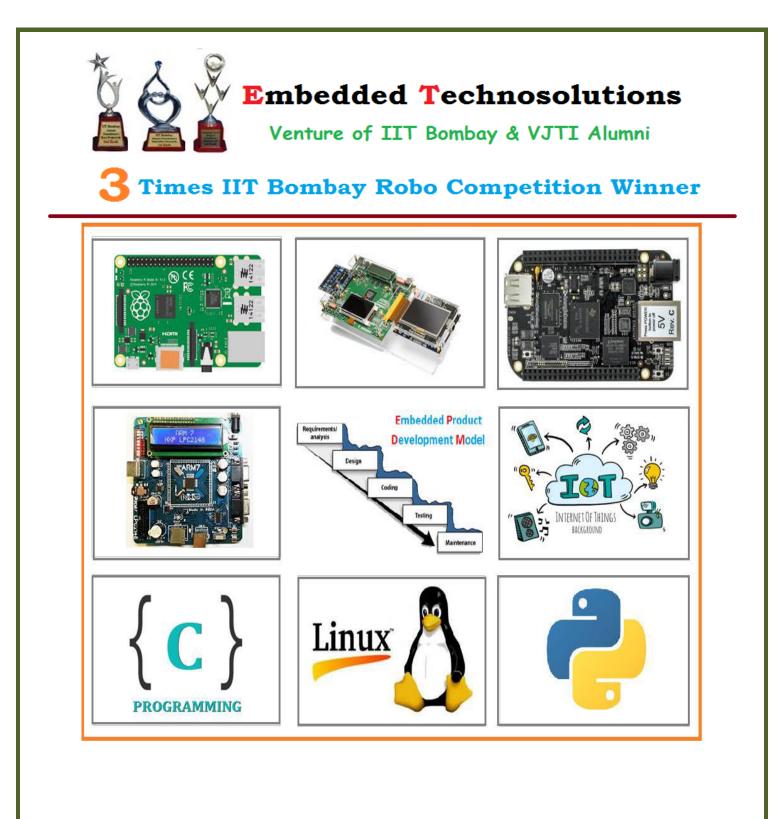




Government of India (MSME) & ISO 9001-2015 Approved Organisation Running by IIT Bombay & VJTI Alumni







Embedded Systems With

Arduino & Wireless Program

Chapter 1

- Introduction to Embedded System with Arduino
- Scope of Arduino in Embedded Systems

Chapter 2

- Introduction to Arduino series
- Hardware architecture of Arduino controller Series
- Controller I/O ports
- Memories of controller
- Concept of Serial communication ,Interrupt etc.



Chapter 3

- Introduction of Embedded Arduino Software
- Introduction of Embedded C Programming and programming concepts for Arduino
- Introduction of program flashing and error correction

Chapter 4

- I/O interfacing concept
- Led Blinking logic and delay generation routine

Chapter 5

- Character LCD 16x2 interfacing logic and concept
- Introduction of LCD command and data signals
- LCD based programming
- Practical project based on character LCD

Chapter 6

• Matrix keypad interfacing logic and concept



- Introduction of key pad interfacing using polling method
- Matrix keypad programming
- Practical project based on matrix keypad

Chapter 7

- Introduction to serial communication
- Serial communication concept
- Introduction of serial communication firmware and registers
- Serial communication programming
- Practical application based on Serial communication

Chapter 8

- Introduction of interrupts in controller
- Interrupt logic and concept
- Interrupt routines / programming
- Key interfacing using interrupt
- Practical application based on interrupt



Chapter 9

- Introduction of ADC
- ADC interfacing
- ADC programming

Chapter 10

- Introduction of DTMF mobile technology
- DTMF technology interfacing in real application
- DTMF programming
- Practical project design based on DTMF technology with Arduino

Chapter 11

- Introduction to RF & RFID communication
- RFID technology interfacing in real application
- RFID module programming
- Practical project design based on RFID technology with Arduino



Chapter 12

- Introduction of I2C Protocol
- I2C protocol interfacing in real application
- I2C module programming
- Practical project design based on I2C protocol with Arduino

Chapter 13

- Introduction of Bluetooth Communication
- Bluetooth technology interfacing in real application
- Bluetooth module programming
- Practical project design based on Bluetooth technology

Chapter 14

Practical designing of a project based on above technology with Arduino



Live Projects :

Embedded Arduino & Wireless Based

- **2** RFID Security System Based Door Authentication
- **3** DTMF Technology Based Universal Home Automation
- **4** Wireless Appliance Controlling System using Android App
- 5 Notice Board
- 6 Room Temperature Controlling System with PC Interface
- **7** Password Protected Locker System