



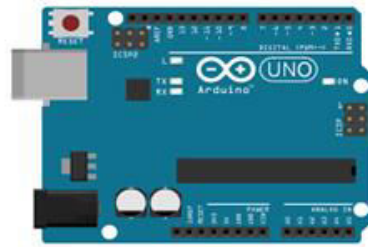
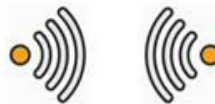
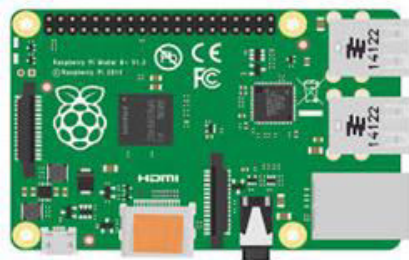
Embedded Technosolutions

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3 Times IIT Bombay Robo Competition Winner

Industrial Certified
Embedded & Robotics Developer

**All India Council For Technical Skill
Development (AICTSD)**
In Association with
IITians Embedded Technosolution





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B R A N D

PROMISE

**We Guarantee You that, You Can Develop Your Projects by
Your Own After This Training Program**



Embedded Raspberry Pi IOT

Module 1 : Raspberry Pi Set up & Configurations

- Program Raspberry Pi : a credit-card sized computer
- Python programming for Raspberry Pi
- Interacting and configuring the RPi OS
- ARM 11 architecture
- Porting of Linux Kernel and booting RPi

Module 2 : Linux Command for Application Execution

- Linux Programming Basics



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Module 3 : Raspberry Pi GPIOs

- Programming the GPIO and interfacing peripherals With Raspberry Pi

Module 4 : PWM Generation

- Generating PWM signals through the Pi for Various applications

Module 5 : UART Protocol & Interfacing

- Programming and work with UART protocol ,example Bluetooth

Module 6 : I2C Protocol Interfacing & Applications

- Work with I2C protocol

Module 7 : Camera Interfacing & Applications Designing

- Camera Libraries & Driver Installations
- Camera based applications designing

Module 8 : Raspberry Pi Webserver

- Remote Login methods: HyperTerminal, Ethernet
- LED Operation Using IOT
- Embedded Webserver



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Module 9 : Computer App Designing

- Developing GUI with TKinter

Embedded Arduino

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



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- 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



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- 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



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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



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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



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	<u>Live Projects</u> : Raspberry Pi IOT Based
1	Traffic Light System
2	Environmental Parameters Measurement
3	Voice Control Home Automation
4	BlueSys using Bluetooth
5	Wireless Mobile Smart System
6	PWM Based Variable System
7	Camera based Surveillance System
8	GUI Based Home Automation using TKinter



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Live Projects :

Embedded Arduino Based

1	Traffic Light System
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