

# Advanced Diploma in Embedded

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## Basics of Embedded System

- Introduction
- C Programming
- 8051 Architecture and C51 Assembly Language Programming
- Embedded C
- Design of Embedded Systems –
- Mini Project using the hardware kit

## Embedded C, C, C++

- Microprocessor & Microcontroller Classification
- Introduction To Mcs-51
- Introduction Of Embedded C
- Constants, Variables & Data Types
- Operators
- Control Structures & Loops
- Functions
- Handling Pointers
- Memory allocation
- Command line arguments
- Compiler
- Data Structures
- Sorting

## Hardware Interfacing

- Interfacing of LEDs
- Interfacing of Switches
- Interfacing of Relays
- Interfacing of LCD
- Interfacing of 7 Segment Display
- Interfacing of ADC
- Interfacing of Stepper Motors
- Interfacing of DC Motors

- Interfacing of IR Sensors
- Interfacing of Ultrasonic Sensors
- Interfacing of MEMS Sensors
- Interfacing of RF Modules
- Interfacing of Mobile Phone using DTMF
- Interfacing of Real Time Clock
- Interfacing of Serial Memory
- Serial Communication
- Interfacing GSM module
- Interfacing of GPS module
- Interfacing Using I2C Protocol
- Interfacing Using SPI Protocol
- Interfacing of Bluetooth
- Mobile Wi-Fi and Bluetooth Applications
- CAN Protocol

## Micro Controllers & Microprocessors

### 8051:

- Introduction To 8051 Microcontroller
- Registers & Memory Of At89c51
- Assembly Language Programming Of At89c51
- Interfacing Of Led
- Interfacing Of Seven Segment Display
- Interfacing Of Lcd
- Interfacing Of Switches & Keyboard Matrix
- Interfacing Of Motors
- Timers & Counter Programming
- Serial Communication Programming
- Interrupt Driven Programming
- Interfacing Of Adc
- Interfacing Of External Memory

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## Advanced Concept

- ARM 7/9
- AVR
- PIC Controller
- Arduino
- IOT
- Raspberry Pi
- Linux

## Certification

- Applying for certification
- Preparation for certification
- Certificate guidance

## Aptitude Test Preparation

- Abstract reasoning
- Verbal reasoning test
- Numerical Reasoning Test
- Spatial reasoning
- Mechanical reasoning

## Real-Time Operating Systems

### (RTOS)

- Real-Time System concepts
- Characteristics of Real-Time Tasks
- Real-Time Scheduling
- Operating System Designs
- RTOS for Safety Critical Systems
- Operating Systems for Wireless Sensor Networks
- Target RTOS kernel architecture
- Porting RTOS Free (RTOS) to target board
- Running demo applications

## C.V. And Interview

- CV Formats
- Interview Questionnaires
- Mock Interviews

## Placement

- Unlimited Interview calls
- Walk in updates
- Campus in
- Free Enrollment on Job Portals
- Job References
- Life time support

## Project Work

- Project Document
- Project Design
- Technical Document
- Functional Document
- Development Phases
- Testing
- Implementation
- Maintenance

## Course Duration: 4 Months (Flexible)

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