

**TIB ACADEMY**  
TRAINING IN BANGALORE

DELIVERING THE  
BETTER TRAINING



Flexible, Affordable, Accessible  
service.



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## TIB ACADEMY'S SERVICE FEATURE



### Affordable Fees

We provide quality training with lowest price. This opportunity is available only at TIB Academy.



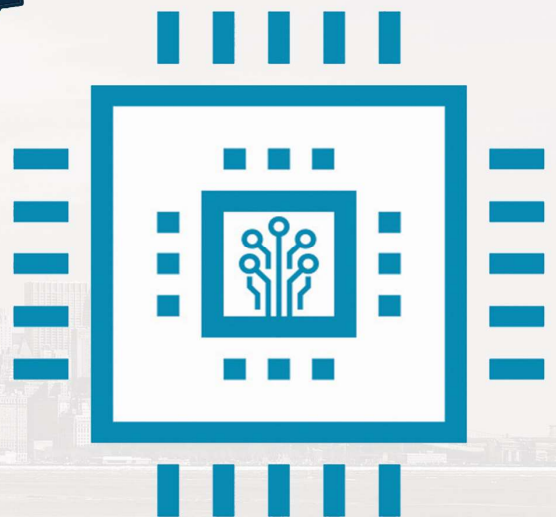
### Experienced Trainers

Learn technology with a experienced professional who have expertise in their particular technology.



### Flexible Timings

We believe that everyone should get the opportunity to learn their desired course. So we provide flexibility timings.



## Quick Contact



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## **Our Embedded Systems Training**

We (TIB Academy) offer you fast track Embedded Systems training with lowest fees cost compared to the other training institutes in Chennai. We provide Embedded Systems training from baseline to high end with practical knowledge with practical sessions. Training will be provided by corporate employees from reputed companies like Renault Nissan, TCS, Wipro, Cognizant, and Infosys so and so.

### **Embedded Basics**

- What is an Embedded Systems?
- What are the Embedded Applications and Functions?
- What are the Embedded Design constraints?
- What the components of Embedded Hardware and Software?
- What the Building block of embedded project?
- What are the Hardware and Software Embedded Tools?
- What is Embedded C?
- What is Microcontroller & Microprocessors?
- What is RTS? What is RTOS? Sample Embedded Hardware Schematic

Creation Sample Embedded C program.





## Specific Processor Architectures (or) Controllers

- 8051/PIC /Beagle Bone Black8/16/32 Bit Controller
- Introduction to ( 8/16/32) 8051 and Pic Micro Controller Microchip's PIC® microcontrollers and its MCU family Introduction to Embedded C Working with PIC 16F877A using Embedded C MPLAB IDE with CCS and Hi-tech compiler suit
- Serial programming and In circuit system programming(ICSP) with 16F877A
- Working with system peripherals I/O, timers, PWM , ADC, CCP, UART,RTC and WDT of PIC 18F877A/Debugging with PICKIT 2 Interfacing LEDs, LCD, Matrix keypad, Multiplexed 7 segment display, Relay and Motor

## Embedded Application Development

- Working with Communication protocols SPI, I2C and CAN with PIC16F877A Project development using PIC 16F877A/At89C51
- Linux kernel
- Introduction to the Linux kernel Linux kernel source
- New features in Linux 2.6 (since 2.6.10) Linux kernel command usage o Files and process subsystem in linux kernel Memory management in linux kernel
- Inter Process Communication Interrupts
- Time and Timers Creating Libraries
- Kernel Synchronization Kernel Parameters





## **Advance C Programming**

Storage class

- Scope and Lifetime of a variable Arrays o
- Strings Pointers Functions
- Pointers Functions
- Structure and Union Recursive Functions Pointer

## **Pointers and Arrays**

- Pointers and Functions Pointers and Strings

## **Function Pointers**

- Command line arguments File Operations
- Complicated Declarations Linked List
- Sorting and Searching Stack and Queue

## **Embedded Linux system development**

- Introduction to embedded Linux
- Basic requirements for Embedded Linux Product Development Cross-compiling tool chains
- Building Development Environment Target & Host Setup
- Setting Up Networking Services Bootloader commands and usage
- Loading RootFS in Platfrom by various techniques Building Your Own Embedded Linux Distribution
- Kernel Configuration and Compilation
- Building embedded Linux systems with Buildroot Booting Linux
- Porting embedded linux (ubuntu version) to Beagle Bone Black

Processor





## Device drivers

Introduction to Device driver

- Kernel Module Programming Basics Kernel Debugging Techniques
- Accessing Hardware Mechanisms The proc file system programming  
Communicating with Hardware
- Hardware and Interrupt Handling Tasklets and Bottom halves

## Kernel Threads

- Sleep and wakeup (wait queues)

Buffer allocation Memory Mapping and DMA Memory Management

Concurrency and Race Conditions Time, Delays and Deferred Work The

Linux Device Model Character Device Drivers Block Device Drivers Serial  
device driver

## RTOS

- Introduction to Real Time systems
- What is Hard and Soft Real time systems Basic of RTS Training on RTOS  
Concepts (task, semaphore, Multitasking)
- Introduction to RTOS Tools (utron, Ucos, Nucleous , EFOS, Android,  
WINCE) Sample exercise on RTOS programming
- Embedded Latest technologies, Communication systems Training on  
GPS, GPRS / 3G, Tracking devices
- Training on Automotive Infotainment
- Introduction on Wi-Fi, Wi-Fi Direct, DLNA, Mira cast, HDMI, Mirror  
link technologies







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## Other Activities

### Assessments

- **Objective Assessments**

- Syntactical based
- Scenario based

*Note: At least 2 objective based assessments in each module*

- **Hands On – Practical Assessments**

- Scenario based

*Note: At least 2 Hands on assessments in each module*

### Assignments

- **Hands On – Practical Assignments**

*Note: At least 4 Hands on assignments in each module*

### Tasks – Home Work

- **Regular tasks on each module**

*Note: Tasks are focused more to improve self learning*

### Resume Support & Interview Preparation

- **Work on one or two mini projects**
- **Discuss and convert the current working project into Embedded project to add in resume & to explain Embedded experience in interviews**