

Embedded Systems Course Syllabus:

The syllabus of will be framed as per the requirement of corporate. We are mainly concentrating in the following syllabus

Microprocessor & Microcontroller Classification:

- ✧ Difference between Microprocessor & Microcontroller
- ✧ Classification based on architecture
- ✧ Memory Classification

Registers & Memory of AT89C51:

- ✧ Description of RAM
- ✧ Description of CPU Registers
- ✧ Functions of SFR

Introduction of EMBEDDED C

- ✧ Introduction to Embedded C
- ✧ Difference between C & Embedded C
- ✧ Programming style
- ✧ Basic structure of C program

Constants, Variables & Data Types

- ✧ Keywords & Identifiers
- ✧ Data type & its memory representation
- ✧ Arrays and strings

Operators

- ✧ Types of Operators
- ✧ Bitwise Operators explained
- ✧ CONTROL STRUCTURES & LOOPS
- ✧ Decision making with if statement
- ✧ If...else statement
- ✧ Switch statement, and GOTO statement
- ✧ The While and Do – While statements
- ✧ For statement

Functions

- ✧ Why Functions
- ✧ Types of Functions
- ✧ A Multi functional program
- ✧ Return values & their types

Interoduction To Softwares

- ✧ Kiel Compiler
- ✧ Proteus
- ✧ INTERFACING OF LED
- ✧ Introduction of LED's

- ✧ Interfacing Circuit Description of LED's
- ✧ Programming of LED's Interfacing

Interfacing of Seven Segment Display

- ✧ Introduction to 7 Segment Display
- ✧ Types of 7 Segment Display
- ✧ Interfacing Circuit Description of 7 Segment Display
- ✧ Programming of 7 Segment Display Interfacing

Interfacing of LCD

- ✧ Introduction to 16 x 2 LCD
- ✧ Commands of 16 x 2 LCD
- ✧ Interfacing Circuit Description of 16 x 2 LCD
- ✧ Programming of 16 x 2 LCD

Interfacing of Switches & Keyboard Matrix

- ✧ Introduction to Switches & Keyboard Matrix
- ✧ Interfacing Circuit of Switches & Keyboard Matrix
- ✧ Programming of Keyboard Matrix & Switches
- ✧ Controlling of LED's by using Switches
- ✧ Key board Matrix & LCD Interfacing Program

Interfacing of Motors

- ✧ Introduction to Motors
- ✧ Types of Motors used in Embedded System
- ✧ Programming & Controlling of motors in Embedded System

Timers & Counters Programming

- ✧ Introduction to Timers & Counters
- ✧ Difference between Timer and Counter
- ✧ Description of SFR associated with Timers & Counters
- ✧ Programming of Timers & Counters

Serial Communication Programming

- ✧ Introduction to Serial Communication
- ✧ Types of Serial Communication
- ✧ Description of SFR associated with Serial Communication
- ✧ Programming of UART

Interfacing Of Adc

- ✧ Introduction to ADC
- ✧ Programming of ADC
- ✧ SENSOR INTERFACING
- ✧ Introduction to sensing devices
- ✧ Interfacing of IR Sensors
- ✧ Interfacing of Temperature Sensor

Embedded Networking

- ✧ I2C Bus Standard
- ✧ Bluetooth
- ✧ Zigbee
- ✧ USB
- ✧ UART

Linux Fundamentals & Device Driver Programming

- ✧ Linux Fundamentals
- ✧ Linux Commands
- ✧ VI Editors
- ✧ Introduction to Device Driver
- ✧ The Role of Device Driver
- ✧ Kernel Module Vs Application
- ✧ Types of Device Driver
- ✧ Character Driver
- ✧ Block Driver & Network Driver

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