



Curriculum



A unit of DREAM WEAVERS Group

An ISO 9001:2008 Certified Company

Development | Training | Consultancy

Duration: 6 Months

ADVANCED C PROGRAMMING

- Feature of 'C' Programming Language
- Program structure Data Types
- Variables and Constants
- Keywords, Operators, Identifiers
- Looping, Nesting Looping Structure
- Character and Strings
- Function and Array
- Interrupts and Serial Communication
- Interfacing :
 - LED
 - 7 SEGMENT
 - LCD
 - RELAY
 - STEPPER MOTOR
 - DC MOTOR
 - SERVO MOTOR
 - KEYPAD
 - ADC
 - SENSORS
 - BUTTONS

EMBEDDED DOMAIN

- Discussion on Microprocessor and Microcontroller
- Different types of microcontrollers and criteria for their selection
- Embedded systems and their Applications
- CISC vs RISC Architectures
- Designing of a Microcontroller
- Project Building Techniques
- Components of an Embedded System
- Relation of Digital Electronics with Embedded Systems
- Augmented logic building
- Introduction to the Development Kit
- Introduction to the burner hardware and Software
- Performing operations abover mentioned on the Hardware Development Kits

EMBEDDED C PROGRAMMING

ADVANCED 8051 MICROCONTROLLER

- Intel 8051 Family
- Features of the Family
- Architecture comparison
- Pin description
- Memory Management
- SFR accessing and addressing
- Accessing built in Timers of 8051
- Embedded C Vs ASSEMBLY
- Advantages of Embedded C
- C and Embedded C
- Discussion on Embedded Software Development
- Features of different Compilers
- Variable, Functions, definition calling and declaration
- Intro to KEIL uVISION for 8051
- Intro to MIKROC PRO for PIC and AVR

PIC AND AVR MICROCONTROLLERS

- Advancements Over 8051
- Architecture Briefing
- PIC Family members
- AVR families of Microcontrollers
- Pin Description
- Advance Programming Techniques
- Datasheet Study
- Interfacing:
 - LED
 - 7 SEGMENT
 - LCD
 - RELAY
 - STEPPER MOTOR
 - DC MOTOR
 - SERVO MOTOR
 - KEYPAD
 - ADC
 - SENSORS
 - BUTTONS
- DOT MATRIX DISPLAY
- GRAPHICS LCD
- PWM, ADC, CCP MODULES
- USART COMMUNICATION
- SPI COMMUNICATION
- I2C PROTOCOL

ARDUINO DOMAIN

- Learning the basics of Arduino development platform
- Introduction to the Arduino IDE
- ARDUINO programming techniques
- Families of Arduino
- Working with Arduino UNO
- Interfacing basic input and output devices with Arduino UNO
- Communication with PC
- Interfacing Sensors like LM35, LDR with Arduino UNO

WIRELESS FLANK

- Fundamentals of Wireless Communication
- RF Transmission and Reception
- IR Communication
- GSM Technology
- Ethernet Connectivity
- Serial WIFI Module
- USB to TTL conversion Protocols



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