



















## SYLLABUS FOR EMBEDDED SYSTEMS

### AFTER COMPLETION OF COURSE

-  YOU CAN DESIGN YOUR OWN INNOVATIVE PROJECT
-  HOW TO HANDLE ADC AND DAC PROJECTS
-  HOW TO USE TIMERS, COUNTERS, INTERRUPTS
-  HOW TO USE COMMUNICATION PROTOCOLS
  -  RS232
  -  SPI
  -  I2C
  -  CAN
-  PWM
-  RTOS
-  ROBOTICS
-  8-BIT, 16-BIT, 32-BIT CONTROLLERS
-  HOW TO HANDLE THE HARDWARE DESIGNING

-  **WHAT IS EMBEDDED SYSTEM**
-  **WHY TO LEARN EMBEDDED**
-  **SCOPE FOR EMBEDDED ENGINEERS**




### TOOLS NEEDED FOR COURSE:

-  CODEBLOCK
-  KEIL 3 & 4
-  PICC COMPILER
-  AVR STUDIO
-  PROTEUS

### MODULES













#### 0 C-LANGUAGE

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-  8051
-  PIC
-  AVR
-  ARM

}

### MODULE 0: C-LANGUAGE

-  TEST
-  STRUCTURE OF C-LANGUAGE PROGRAM
-  RANGES OF DATA TYPES
-  CONDITIONS(IF--IF ELSE--NESTED IF--SWITCH)
-  LOOPS(FOR--WHILE--DO-WHILE)
-  ARRAYS
-  POINTERS
-  STRINGS
-  FUNCTIONS
-  MACROS
-  STRUCTURES
-  UNIONS
- PROJECT**

### INTRODUCTION:

-  WHAT IS ROM AND RAM
-  DIFFERENT TYPES OF ROMS
-  DIFFERENT TYPES OF RAMS
-  DIFFERENCE BETWEEN MICRO CONTROLLER and MICRO PROCESSOR
-  COMPILER, ASSEMBLER, DEBUGGER, BURNER
-  ASSEMBLY LANGUAGE
-  8051 SPECIFICATIONS

## WIZTECH AUTOMATION SOLUTIONS PVT.LTD.

### **MODULE 1:8051**

01. TURN ON A LOAD USING A SWITCH
02. TOGGLING LEDS USING DELAY
03. DIFFERENCE BETWEEN LED AND LCD?
04. 7 SEG DISPLAY(7-WIRE &4-WIRE COMMUNICATION)
05. LCD
06. HARDWARE INTERFACING (KEYPAD)

#### **MINI PROJECT**

07. TIMERS
08. COUNTERS
09. INTERRUPTS
10. ADC
11. DAC
12. COMMUNICATION PROTOCOLS

#### **PROJECT**

### **MODULE 2: PIC**

00. INTRODUCTION
01. DC MOTOR CLOCKWISE and ANTICLOCKWISE
02. 14 SEG & 16 SEG
03. DOT MATRIX LCD
04. KEYPAD
05. TIMERS
06. COUNTERS
07. INTERRUPTS
08. ADC
09. SERIAL COMMUNICATION

#### **PROJECT**

### **MODULE 3: AVR**







00. INTRODUCTION
01. STEPPER MOTOR CLOCKWISE and ANTICLOCKWISE
02. 14 SEG & 16 SEG
03. GRAPHICAL LCD
04. KEYPAD
05. TIMERS
06. INTERRUPTS
07. ADC
08. SERIAL COMMUNICATION

#### **PROJECT**






### **MODULE 4: ARM**

00. INTRODUCTION
  01. CONTROL A LOAD USING SWITCH
  02. 7SEG ,14 SEG,16 SEG
  03. LCD
  04. KEYPAD
- #### **MINI PROJECT**
05. TIMER
  06. INTERRUPT
  07. ADC
  08. SERIAL COMMUNICATION

#### **PROJECT**

-  RTOS
-  TOUCH SCREENS
-  COMMUNICATION PROTOCOLS (RS-232, SPI, I2C, CAN)
-  ROBOTICS
-  LINUX OS
-  HARDWARE TRAINING

#### **OTHER COURSES:**

-  VLSI
-  PLC
-  SCADA
-  DCS
-  C++,OOPS,DATASTRUCTURES

#### **BRANCHES COMING SOON**



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