

## **OVERVIEW: Hands-On-Training on PIC16F Microcontrollers**

### **PIC16F**

- Introduction to microcontrollers and embedded systems
- Brief on PIC series of microcontroller architecture, pin description
- Memory organisation, Special Function Registers (SFRs)
- Instruction set, writing of programs using Assembly language
- Demonstration of hands-on practice on a development board and software tool MPLAB IDE v8.40.

### **Peripherals include**

1. **Input/Output ports** - Configuration of ports
2. **Timers** – Using timers for various applications
3. **UARTS** – Serial interface to the desktop PC
4. **Analog to digital converters** – Interfacing with temperature sensors, etc
5. **Relay switching** – Switching on/off of a device/appliance
6. **Stepper motors** – For industrial automation
7. **DC motors** – Controlling of DC motors
8. **Keyboard** - Getting input data into the microcontroller
9. **7-Segment display** - Display of output
10. **16x2 LCD display** – Display of output

### **Note:-**

1. Course fee is Rs 6,000 + 10.3% service tax = Rs 6,618 (including registration, training and reference CD)
2. Timings for week days are 10:30 AM to 5:30 PM.
3. Timings for weekend classes are: Saturday 1.30 PM - 5:30 PM; Sunday 10 PM - 5 PM
4. Students will receive certificates from Microchip Inc. on successful completion of the course on PIC16F.
5. A CD, which contains the course content, reference manual, data manual, library of programs, codes in Assembly Language, plus a lot of information on microcontrollers, will be provided at the end of the course.
6. Development boards can be provided at an extra cost.