

- **INTRODUCTION TO 8051 MICROCONTROLLER** (10 Hours)
8051 Architecture, I/O Pins, Ports, External Memory, Counters & Timers, Serial Data Input/Output, Interrupts
- **ASSEMBLY LANGUAGE PROGRAMMING OF 8051** (10 Hours)
Moving Data, Logical Operations, Arithmetic Operations, Jump & Call Instructions
- **APPLICATIONS OF 8051** (12 Hours)
8051 Microcontroller Design, Applications Like Key Switched, Displays, Pulse Measurement, ADC & DAC, Serial Data Communication, Multi-processor Communications
- **PIC/ARM Microcontroller** (13 Hours)
Architecture, I/O Pins, Ports, Memory, Counters & Timers, Serial Data Input/Output, Interrupts . Applications

(Total Contact Time: 45 Hours)

PRACTICAL:

1. Program Set For (Arithmetic & Logical Group)-8051
2. Program Set For (Conditional Instructions)-8051
3. Program Set For (Code Conversion Group)-8051
4. Program Set For (Subroutines)-8051
5. Program Set For (Interrupts & Timers)-8051
6. Interfacing of LEDs & Switches with 8051
7. Up/Down Counter using 8051 Microcontroller
8. Program Set For (Subroutines)-8051
9. Hands-on programming of PIC/ARM(Set I)
10. Hands-on programming of PIC/ARM(Set II)

BOOKS RECOMMENDED:

1. **Kenneth J. Ayala**, *"The 8051 Microcontroller- Architecture, Programming And Applications"*, Penram International, 2nd Edition, 1996
2. **Mazidi A. M., Mazidi J. G. and McKinlay R. D.**, *"The 8051 Microcontroller And Embedded Systems-Using Assembly And C"*, Pearson Education, 2nd Edition, 2008
3. **Predko Mike**, *"Programming And Customizing The Microcontroller"*, TMH, 1st Edition, 14th Reprint, 2007
4. **Sloss A. N., Symes D. and Wright C.**, *"ARM System Developer's Guide"*, Morgan Kaufmann Publishers, 1st Edition, 3rd Reprint, 2006
5. **Predko Michael**, *"Programming And Customizing The PIC Microcontroller"*, TMH, 1st Edition, 1998