Prasad V. Potluri Siddhartha Institute of Technology, Kanuru, Vijayawada.

Department of ECM   **PVP12**

3/4 B.Tech. SIXTH SEMESTER

EM6L1   **MP& MC LAB**   **Credits:2**

Lecture: 3 periods/week   **Internal assessment   : 25 marks**
Tutorial: 0 period /week   **Semester end examination: 50 marks**

Objectives:

- To gain the knowledge of writing programs by using the 8086 instruction set and 8051 instruction set & interfacing.

Learning outcomes:

students will be able to

- Write   programs by using the 8086 instruction set and 8051 instruction set
- Interfacing 8086 with 8255,8279,8253,8251 IC's

Cycle-I 8086 Microprocessor

1. Introduction to TASM/MASM
2. Write 8086 program to implement Multi byte Arithmetic Operations (Unsigned)?
3. Write 8086 program to implement Arithmetic Operations (Signed)?
4. Write 8086 program to implement of two ASCII Arithmetic Operations?
5. Write 8086 program to implement Logical & Rotate Arithmetic Operations
6. Write 8086 program to implement BCD Arithmetic Operations?
7. Write an ALP to implement Display string on the monitor?
8. Write an ALP to implement Move Block of data from one location to another location?
9. Write an ALP to implement String comparison (Pass word checking)?
10. Write an ALP to implement read a character from key board with or without echo?
11. Write an ALP to implement read a character from key board with or without echo?
12. Write an ALP to implement Reverse the string ?
13. Write an ALP to implement HEX to BCD conversion?
14. Write an ALP to implement sorting ?
15. Write an ALP to implement Factorial using recursive procedure?9.

Cycle-II Interfacing

1. Write 8086 program to interface 8255 PPI, generate saw tooth wave, Triangular wave and square wave using DAC interfacing?

2. Write 8086 program to interface 8279 key board display?
3. Write 8086 program to interface 8253 & 8251 USART?

Cycle–III 8051 Microcontroller

1. Write 8051 program to implement Multi byte addition ?
2. Write 8051 program to implement two 32-bit numbers ?
3. Write 8051 program to implement Multiplication ?
4. Write 8051 program to implement division operation?
5. Write 8051 program to implement Byte Checking?
6. Write 8051 program to implement writing to parallel port ?

Learning resources

TEXT BOOKS:

1. Advanced Microprocessor and Peripherals (Architecture, Programming & Interfacing) by
A.K. Roy & K.M. Bhurchandi – TMH Publication.
2. 8051 Microcontroller & Embedded Systems by Mazidi & Mazidi – Pearson / PHI publication