

III B.Tech II Semester

15AEC37 - MICROPROCESSORS & MICROCONTROLLERS LAB

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Course Objectives:

1. To become skilled in 8086 Assembly Language programming.
2. To understand programmable peripheral devices and their Interfacing.
3. To understand and learn 8051 microcontroller.
4. To learn 8051 assembly Language programming

Minimum Ten Experiments to be conducted (Five from each section)**I) 8086 Microprocessor Programs using MASM/8086 kit.**

1. Introduction to MASM Programming.
2. Arithmetic operation – Multi byte Addition and Subtraction, Multiplication and Division – Signed and unsigned Arithmetic operation, ASCII – arithmetic operation.
3. Logic operations – Shift and rotate – Converting packed BCD to unpacked BCD, BCD to ASCII conversion.
4. By using string operation and Instruction prefix: Move Block, Reverse string, Sorting, Length of the string, String comparison.

Interfacing:

5. 8259 – Interrupt Controller and its interfacing programs
6. A /D Interfacing
7. D /A Interfacing
8. Stepper Motor.

II) Microcontroller 8051 Trainer kit

1. Arithmetic operation – Multi byte Addition and Subtraction, Multiplication and Division – Signed and unsigned Arithmetic operation.
2. Logic operations – Shift and rotate.
3. Sorting- Ascending and descending order.

Interfacing using 8051 Trainer kit:

4. A/D Interfacing
5. D /A Interfacing
6. Switch Interfacing
7. Relay Interfacing

Course Outcomes:

- a. Able to write 8086 Assembly Language programs.
- b. Able to understand programmable peripheral devices and their Interfacing.
- c. Able to write 8051 assembly Language programs.