

4/4 B.Tech. SEVENTH SEMESTER**EE7L1****MICROCONTROLLERS LAB****Credits: 2****Lecture:****Internal assessment: 25 marks****Tutorial: 3 period /week****Semester end examination: 50 marks****Course Objective:**

To train the students to use micro-processor and micro-controller for computational and logical applications. Also this course prepares the students to provide solutions to real-time problems.

Course Outcomes:

1. Accomplish arithmetic and logical operations with 8086 micro-processors and 8051 micro-controllers.
2. Illustrate various interfacing techniques related to real time applications, using 8086 micro-processors.
3. Perform multiprocessor communication.
4. Analyze and document the experiments carried out.

List of experiments**I. Introduction to MASM/TASM.****II. Microprocessor 8086**

- i. Arithmetic operation – Multi byte addition and subtraction, Multiplication and Division, ASCII – arithmetic operation.
- ii. Logic operations – Shift and rotate – Converting packed BCD to unpacked BCD, BCD to ASCII conversion.
- iii. String Operations – Sorting

III. Microcontroller 8051

- i. Arithmetic operations
- ii. Checking 5th bit
- iii. Display string
- iv. Serial communication implementation.
- v. Programs using special instructions like swap, bit/byte, set/reset etc.

IV. Interfacing

- i. 8259 – Interrupt Controller
- ii. Traffic light Interface
- iii. Stepper Motor Interface
- iv. ADC Interface
- v. Keyboard Interface