Course Name MICROPROCESSOR & MICROCONTROLLER LAB

Course Code EE694

Course Credit 2

Contact Hour 3L

Prerequisite Computer Architecture, Digital Electronics

Course Objective

The objectives of this course are

1. To become familiar with the architecture and Instruction set of Intel 8085 microprocessor.
2. To provide practical hands on experience with Assembly Language Programming.
3. To familiarize the students with interfacing of various peripheral devices with 8085 microprocessor.

Course Outcome

On completion of the course students will be able to

1. Describe the architecture and comprehend the instruction set of 8085.
2. Understand and apply the principles of Assembly Language Programming in developing microprocessor based applications.
3. Work with standard microprocessor interfaces like serial ports, digital-to-analog Converters and analog-to-digital converters etc

CO Mapping with departmental POs

H: High, M: Medium, L: Low

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	H											
CO 2	H	M	L									
CO 3			M	H								
CO 4			M	H								
CO 5			H									
CO 6			M	H								

Course Content

List of Experiments

1. Study of prewritten programs on trainer kit using the basic instruction set (data transfer, Load/Store, Arithmetic, Logical) Assignments based on above.

2. Familiarization with 8085 & 8051 simulator on PC. Study of prewritten programs using basic instruction set (data transfer, Load/Store, Arithmetic, Logical) on the simulator.

3. Assignments (any six) based on above

   i. Table look up

   ii. Copying a block of memory

   iii. Shifting a block of memory

   iv. Packing and unpacking of BCD numbers e. Addition of BCD numbers

   v. Binary to ASCII conversion

   vi. String Matching, Multiplication using shift and add method and Booth's Algorithm

   vii. Program using subroutine calls and IN/OUT instructions using 8255 PPI on the trainer kit e.g. subroutine for delay, reading switch state and glowing LEDs accordingly.

viii. Interfacing of 8255

ix. Study of 8051 Micro controller kit and writing programs as mentioned above.

x. Write programs to interface of Keyboard, DAC and ADC using the kit.

xi. Serial communication between two trainer kits

Text Books

1. Ramesh S Gaonkar, “Microprocessor Architecture, Programming and Applications with the 8085”, 5th edition, Prentice Hall, 2002.