

WITH EFFECT FROM THE ACADEMIC YEAR 2009-2010

EE 432

**MICROPROCESSORS & MICROCONTROLLERS LAB
(COMMON TO EEE & IE)**

Instruction	3 Periods per week
Duration of University Examination	3 Hours
University Examination	50 Marks
Sessional	25 Marks

List of Experiments:

For 8086:

Section 1 : Using MASM/TASM

1. Programs for signed/unsigned multiplication and division.
 2. Programs for finding average of N 16-bit numbers.
 3. Programs for finding the largest number in an array.
 4. Programs for code conversion like BCD numbers to 7-Segment.
 5. Programs for compute factorial of a positive integer number
- Section 2 : Using 8086 Kit (Interfacing)

1. 8279 -Keyboard Display: Write a small program to display a string of characters.
2. 8255-PPI: Write ALP to generate triangular wave using DAC.
3. 8253- Timer/Counter: Application of different modes.
4. 8251-USART: Write a program in ALP to establish Communication between two processors.
5. Traffic Signal Controller.

For 8051:

Section 3: Using 8051 Kit (Simple Programs)

- 1 Data Transfer -Block move, Exchange, sorting, Finding largest element in an array.
- 2 Arithmetic Instructions: Multi byte operations.
- 3 Boolean & Logical Instructions (Bit manipulations).
- 4 Programs to generate delay, programs using serial port and on chip timer/counter.
5. Use of JUMP and CALL instructions.

Section 4 : Program Development using 'c' cross compiler for 8051

1. Square Wave Generation using timers.
2. Interfacing of keyboard and 7-segment Display Module.
3. ADC interfacing for temperature monitoring.
4. DAC interfacing for Generation of Sinusoidal wave.
5. Stepper motor control (clockwise, anticlockwise and in precise angles)

List of equipment:

1. 8086 Kit (with inbuilt assembler/disassembler).
2. MASM/ASM software.