MARTHANDAM COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Microprocessor and Microcontroller LAB

Equipments Available in the Lab

Sl.No	Hardware	Specification	Quantity
1.	Personal Computer	Dell Desktop Motherboard 1GB RAM, LCD Monitor Zebronics Keyboard and Optical Mouse	7
2.	Personal Computer	Dell Desktop Motherboard 1GB RAM, CRT Monitor Zebronics Keyboard and Optical Mouse	8
3.	8085 Microprocessor Kit		30
4.	8086 Microprocessor Kit		15
5.	8255 Interface		05
6.	8253 Interface		02
7.	8259 Interface		05
8.	8279 Interface		05
9.	8251 Interface		04
10.	8051 Microcontroller		15
11.	Floppy Disk controller		02
12.	Hard Disk Controller		02
13.	Traffic light Controller		05
14.	Stepper Motor controller		05
15.	DC Motor Controller		05
16.	AC Motor Controller		05
17.	ADC/DAC Board		05
18.	Digital Clock Interfacing board		05
19.	Printer Interfacing card		05
20.	8-Digit Multiplexed Display card		02
21.	DMA Interface		04
22.	DC –DC Buck Convertor Trainer with RPS		01
23.	DC-DC fly convertor Trainer with RPS		01

24.	Instrumentation Amplifier with bridge type transducer		01
25.	Process Control Timer		01
26.	Wireless Data Modem		01
27.	DSP Based system design-TMS 320DSP kit		01
28.	Microcontroller based system design -8085 kit		01
29.	Programmable Logic Controller		05
30.	Cathode Ray Oscilloscope		15
31.	2 MHz function Generator		05
32.	3 MHz function Generator		02
33.	Power supply		03
Software			
1	ORCAD		
2	C Cross Compiler-I		

COURSES OFFERED

Sl.No	Odd Sem (Course code & Name)	Class	Even Sem (Course code & Name)	Class
1			EE8681-Microprocessor and Microcontroller Laboratory	III EEE

EE 8681 – MICROPROCESSOR AND MICROCONTROLLER LABORATORY

OBJECTIVES:

- To perform simple arithmetic operations using assembly language program and study the addressing modes & instruction set of 8085 & 8051.
- To develop skills in simple program writing in assembly languages
- To write an assembly language program to convert Analog input to Digital output and Digital input to Analog output.

- To perform interfacing experiments with μP8085
- To perform interfacing experiments with μC8051

OUTCOMES:

On completion of the course, students will be able to:

- Ability to write assembly language program for microprocessor.
- Ability to write assembly language program for microcontroller
- Ability to design and implement interfacing of peripheral with microprocessor and Microcontroller
- Ability to analyze, comprehend, design and simulate microprocessor based systems used for control and monitoring.

Ability to analyze, comprehend, design and simulate microcontroller based systems used for control and monitoring.

LIST OF EXPERIMENTS:

PROGRAMMING EXERCISES / EXPERIMENTS WITH μP8085:

1. Simple arithmetic operations: Multi precision addition / subtraction /multiplication / division.

2. Programming with control instructions: Increment / Decrement, Ascending / Descending order, Maximum / Minimum of numbers, Rotate instructions, Hex / ASCII / BCD code conversions.

3. Interface Experiments: A/D Interfacing. D/A Interfacing. Traffic light controller

4. Stepper motor controller interface.

5. Displaying a moving/ rolling message in the student trainer kit's output device.

PROGRAMMING EXERCISES / EXPERIMENTS WITH μC8051:

6. Simple arithmetic operations with 8051: Multi precision addition / subtraction / multiplication/ division.

7. Programming with control instructions: Increment / Decrement, Ascending / Descending. order, Maximum / Minimum of numbers, Rotate instructions, Hex / ASCII / BCD code conversions.

8. Interface Experiments: A/D Interfacing. D/A Interfacing. Traffic light controller

9. Stepper motor controller interface.

10. Displaying a moving/ rolling message in the student trainer kit's output device.
11. Programming PIC architecture with software tools.