Objective:

The main objective of this lab course is to

- Familiarize the architecture of 8086 processor, assembling language programming and Interfacing with various modules.
- The student can also understand of 8051 Microcontroller concepts, architecture, programming and application of Microcontrollers.
- Learn the design aspects of I/O and Memory Interfacing circuits.
- Student able to do any type of embedded systems, industrial and real time applications by knowing the concepts of Microprocessor and Microcontrollers.

List of Experiments

The following programs/experiments are written for assembler and execute the same with8086 and 8051 kits

1. Programs for 16 bit arithmetic operations for 8086 (using various addressing modes)

2. Program for sorting an array for 8086

3. Program for searching for a number or character in a string for 8086

4. Program for String manipulations for 8086

5. Program for digital clock design using 8086.

6. Interfacing ADC and DAC to 8086.

7. Parallel communication between two microprocessors using 8255.

8. Serial communication between two microprocessor kits using 8251.

9. Interfacing to 8086 and programming to control stepper motor.

10. Programming using arithmetic, logical and bit manipulation instructions of 8051

11. Program and verify Timer/Counter in 8051.

12. Program and verify interrupt handling in 8051.

13. UART operation in 8051.

14. Communication between 8051 kit and PC.

15. Interfacing LCD to 8051.

16. Interfacing matrix or keyboard to 8051.

17. Data transfer from peripheral to memory through DMA controller 8237/8257

KG REDDY
College of Engineering
& Technology

Department of Electronics & Communication Engineering

III YEAR B.Tech. II - SEM

MICRO PROCESSORS AND MICRO CONTROLLERS LAB CODE : 16EC6

LIST OF EXPERIMENTS

(Minimum of 12 experiments are to be conducted)

1. Program for 16 bit arithmetic operation for 8086(using various addressing modes).
2. Program for sorting an array for 8086.
3. Program for searching for a number or character in a string for 8086.
4. Program for string manipulations for 8086.
5. Program for digital clock design using 8086.
6. Interfacing ADC and DAC to 8086.
7. Parallel communication between two microprocessors using 8255.
8. Serial communication between two microprocessor kits using 8251.
9. Interfacing to 8086 and programming to control stepper motor.
10. Programming using arithmetic, logical and bit manipulation instructions of 8051.
11. Program and verify timer/counter in 8051.
12. Program and verify interrupt handling in 8051.
13. UART operation in 8051.
14. Communication between 8051 kit and PC.
15. Interfacing LCD to 8051.
16. Interfacing matrix keyboard to 8051.
17. Data transfer from peripheral to memory through DMA controller 8237/8257.