KG REDDY College of Engineering & Technology

Name of the laboratory: Microprocessors and Microcontrollers

COURSE OBJECTIVES (the student should be made to):

1. Introduce ALP concepts and features
2. Write ALP for arithmetic and logical operations in 8086 and 8051
3. Differentiate Serial and Parallel Interface
4. Interface different I/Os with Microprocessors
5. Be familiar with NASM

COURSE OUTCOMES
At the end of the course, student will able to

CO1. Implement the basic programming for Arithmetic and Logical operations in 8086 microprocessor and 8051 Microcontroller

CO2. Identity the assembly level programming in given problem.

CO3. Choose the appropriate programming level for a specified application.

CO4. Understand the techniques UART operation and LCD interfacing to 8051 Microcontroller

List of experiments:

1. Programs for 16 bit arithmetic operations 8086(using various addressing modes)
2. Programs for sorting an array for 8086.
3. Programs for searching for a number of characters in a string for 8086.
4. Programs for string manipulation for 8086.
5. Programs for digital clock design using 8086.
6. Interfacing ADC and DAC to 8086.
7. Parallel communication between two microprocessor kits 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

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