

## **MC5213 OPERATING SYSTEMS AND EMBEDDED SYSTEMS LABORATORY**

### DETAILED SYLLABUS

#### **OBJECTIVES**

- To involve the students to Practice on Workbench /Software Tools/ Hardware Processor Boards with the supporting Peripherals.
- To teach the concepts of algorithm development & programming on software tools and micro controllers with peripheral interfaces.
- Learn shell programming and the use of filters in the UNIX environment.
- Learn to use the system calls and inter process communication.

#### **LIST OF EXPERIMENTS**

1. 8051 Microcontroller Based 8-bit Addition & Subtraction
2. 8051 Microcontroller Based 8-bit Multiplication & Division
3. 8051 Microcontroller Based I/O Interfacing to verify timer operations
4. Real Time Systems Program Using RTOS (like LED Display)
5. Basics of UNIX commands and Shell Programming
6. Implement the following CPU scheduling algorithms
  - a. Round Robin
  - b. SJF
  - c. FCFS
  - d. Priority
7. Process creation, Process synchronization & Interprocess communication using semaphores
8. Pipes and message in UNIX environment