EMBEDDED SYSTEMS LAB

Course Code: 13EC2215 **L P C**
0 3 2

Pre requisites: Microcontrollers Theory, Embedded Systems Theory

Course objectives:

- To train the students in writing the programs for 8051, ARM7 processor using assembly or 'C' language for various on-chip and off-chip peripherals with and without RTOS.

Course outcomes:

- Upon completion of the course, students will be able to write programs and use 8051, ARM7 microcontrollers for various applications.

8051 experiments:

1. Pulse width modulation
2. Sine wave generation using look-up table
3. Serial communication
4. Interfacing LCD /seven segment display unit
5. Stepper motor control

ARM experiments:

1. Arithmetic operations
2. LEDs
3. Serial communication
4. LCD interface
5. ADC
6. Keyboard interfacing

RTOS programming:

1. Multitasking using RTOS.
2. Implement semaphore for task switching using RTOS.
3. Implement priority scheduling and OS time delay functions by writing 3 different tasks
4. Transfer data using Ethernet port.