EMBEDDED SYSTEMS LAB

Course Code: 15EC2215

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Pre requisites: Microcontrollers Theory, Embedded Systems Theory

Course outcomes:

At the end of the course the student will be able to

1. Generate arbitrary wave forms with 8051 Microcontroller.
2. Development of assembly language programs with ARM Processor Microcontroller.
3. Interface peripheral devices with 8051 and ARM Microcontrollers.
4. Design and implementation of serial communication by using 8051 and ARM Microcontrollers.
5. To implement simple RTOS programs.

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.

NOTES