Course: M.Tech. Electronics and Communication	Name of Faculty: Dr. Bijoy A. Jose
Topic: 18-437-0102 Embedded Systems Lab	**Semester: FIRST**
Lecture Hall: Microprocessor Lab	**Timings:** as per CBCS

Set of experiments

Experiment 1: Interface a 16x2 LCD to PIC16F887 microcontroller and display a Malayalam word

Experiment 2: Interface a keypad to PIC16F887 microcontroller and display a key switch being pressed in the board.

Experiment 3: Interface builtin DS1307 real time clock chip and display the time, day and date.

Experiment 4: Use PIC16F887 to perform compare, capture and PWM operations.

Experiment 5: Familiarization of deployment flow ARM Development Kit, Keil Mvision IDE, Flash Programming. Flash a sample blinky program into ARM Cortex M3.

Experiment 6: Write a program to display hello world on terminal. Interface 4X4 Matrix Keypad and display in LCD.

Experiment 7: Interface Zigbee modules to two ARM Cortex M3 devices and communicate a string containing names of team members.

Experiment 8 : Use stepper motor interface module to rotate the motor in both directions.

Experiment 9 : Familiarization with ulink pro. Flash a sample program with loop containing arithmetic operations. View registers and memory, use watch window to view variables. Familiarization of basic debugging. Identify code optimizations done by compiler or processor from your input program.

Experiment 10: Write a program to find the first 20 prime numbers and save it in an array and also to find its sum. Use ULINK pro to flash the program. Run the program in debug mode, do step by step execution and observe the registers and watch window. View the memory of the array as it gets updated. Run the program till N=20, get sum of all prime numbers.