

Course code	Course Name	L-T-P-Credits	Year of Introduction
IC331	MICROCONTROLLERS LAB	0-0-3-1	2016
Prerequisite : IC206 Microcontrollers			
Course Objectives <ul style="list-style-type: none"> To acquaint the students with assembly language programming and hardware design using microcontrollers. 			
List of Experiments (Minimum of 12 experiments and the project are mandatory) <ul style="list-style-type: none"> Assembly Language programming of 8051 Family in Keil/Ride environment: <ol style="list-style-type: none"> Examples of arithmetic operations Examples of logical operation Examples using simulated ports, timers etc Examples of serial communication. C language programming of 8051 Family in Keil/Ride environment <ol style="list-style-type: none"> Examples of arithmetic and logical operations Examples using simulated ports, timers etc Examples of serial communication. Using microcontroller kits: <ol style="list-style-type: none"> Interfacing LED Interfacing LCD displays Keypad scanning Interfacing buzzers Seven segment display Interfacing ADC and DAC Interfacing stepper motor Interfacing USART Interfacing counters/timers Experiments using a RISC based microcontroller based system like Arduino Board. A microcontroller based project <p>Four or less students may be grouped to undertake a simple microcontroller based project. The developed system along with a project report is to be submitted at the end of the session.</p> 			
Expected Outcome <ul style="list-style-type: none"> After the completion of the lab, students will be able to design and implement microcontroller based systems, both in hardware and software for various practical purposes 			
Text Book Muhammed Ali Mazidi and Janice Gillispie Mazidi, The 8051 Microcontroller and Embedded Systems using Assembly and C, Pearson Education, 2e			