

COURSE CODE: 1151EE306	COURSE TITLE: MICROPROCESSOR & MICROCONTROLLER LAB	L 0	T 0	P 2	C 1
COURSE CATEGORY:					
Program Core					
PREAMBLE :					
Microprocessors and Microcontrollers laboratory course helps the students to develop their knowledge on processor architecture and the programming skills. This laboratory course provides hands-on experience to interface I/O devices, perform A/D and D/A conversions, design traffic light etc. The skills acquired through the experiments help the students to do their projects and enhance their knowledge on the latest trends and technologies.					
PREREQUISITE COURSES:					
Electronic Devices & Circuits Lab					
RELATED COURSES:					
Project Work					
COURSE EDUCATIONAL OBJECTIVES :					
The objectives of the course are to make the students,					
<ul style="list-style-type: none"> • To give hands on experience in 8085 assembly language programming. • To give hands on experience in peripheral interfacing with 8085, 8086. • To introduce 8051 microcontroller programming. • To enhance their knowledge on the latest trends and technologies. 					
COURSE OUTCOMES :					
Upon the successful completion of the course, students will be able to:					
CO Nos.	Course Outcomes	Level of learning domain (Based on revised Bloom's taxonomy)			
C01	Execute new assembly language programs using instruction sets of 8085	S2			
C02	Recreate programs using the knowledge of instruction set of 8086 with the help of trainer kit and MASM software.	S2			
C03	Adapt and analyze various interfacing devices with 8085 and 8086 Microprocessors.	S2			
C04	Develop assembly and C Programs for 8051 microcontroller.	S2			
C05	Demonstrate programming proficiency using the various addressing modes and data transfer instructions of the target microprocessor and microcontroller.	S2			
COURSE CONTENT:					
LIST OF EXPERIMENTS					
Assembly Language Programming With 8085:					

1. Arithmetic Operations of two 8-bit numbers (Addition, Subtraction, Multiplication & Division).
2. Arranging an array of data (ascending order & descending order).
3. Code Conversion (BCD to HEX, HEX to BCD, HEX to ASCII & ASCII to HEX).
4. Interfacing (8251 (USART), ADC/DAC, 8253 (Timer IC) & 8279 (Keyboard/Display Controller)).

Assembly Language Programming With 8051 Microcontroller:

5. Arithmetic Operations of two 8-bit numbers (Addition, Subtraction, Multiplication & Division).
6. Verify Timer/ Counter.
7. Verify Interrupt Handling.
8. Interfacing (Stepper Motor, DC Motor, ADC/DAC, Matrix/Keyboard & LCD).

Assembly Language Programming with ARM Processor:

9. Arithmetic Operations of two 8-bit numbers (Addition, Subtraction, Multiplication & Division).
10. Code Conversion.