Faculty of Engineering and Technology

Bachelor of Technology

Effective from Academic Year: 2018-19

Branch Name:	Computer Engineering
Semester/Year:	Semester V / Third Year
Subject Title:	Microprocessor and Interfacing
Subject Code:	1ET1030505
Pre-requisite:	Computer organization and Architecture

Course Objective:

- To understand architecture and instruction set of 8 bit microprocessor.
- To understand basics of microprocessor, microprocessor architecture and programming.
- To understand microprocessor connection with memory and I/O devices.

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
				Theory (Marks)		Practical (Marks)		
Lecture (L)	Tutorial (T)	Practical (P)	Credit	University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	Total (Marks)
02	-	02	03	70	30	30	20	150

Subject Contents			
Sr. No	**Topic**	**Total Hours**	**Weightage (%)**
1	**Basics:** History of Microprocessor, 8085 Microprocessor architecture, buses, register, flags, 8085 pin configuration and function of each pin.	06	20
2	**Operation and Control:** Fetch, decode and execute operations. Op-code fetch, execute cycle, T state, Machine cycle. Addressing modes of 8085.	07	25
3	**Instruction Set:** Data transfer, Arithmetic, Logical, Rotate, Branch and machine control instructions, Addressing Modes	05	15
4	**Interrupts and Subroutines:** 8085 interrupts, RST, SIM, RIM instructions. Subroutine and conditional call instruction.	05	20
5	**Programming:** Assembly Language Programming Basics, Classification of Instructions, Writing & Executing A Program.	04	20

Course Outcome:

After learning the course, the students will be able to understand the working of 8 bit microprocessor. Student also able to understand the various operations performed on the microprocessor. It also gives the idea about performing various types of operations on processor using instruction sets.

List of Text Books:

1. Gaonkar R. S., “Microprocessor Architecture, Programming and Applications”, Penram International.

List of Reference Books:

1. Doughlas V.Hall, "Microprocessors and Interfacing, Programming and Hardware:TMH.
2. Short K. L., "Microprocessors and Programmed Logic", 2nd Ed., Pearson Education.
3. Microprocessor 8085 and Its Interfacing by Sunil Mathur; 2nd Ed.

List of Suggested titles of Experiments:

1. Introduction to 8085 assembly language programming.
2. Write ALP to add two-8bit numbers.
3. Write ALP to copy content of C250H to C350H with HL register pair.
4. Write ALP to exchange the content of two registers.
5 Write ALP to make average of 10 random numbers.
6. Write ALP to add two 16 bit numbers.
7. Write ALP to find minimum number and store that number in memory location.
8. Write ALP to find the number of odd and even numbers from the given 10 8-bit numbers.
9. Write ALP to arrange the given five 8-bit numbers in ascending order.

e-Resources (If any):

1. http://nptel.ac.in/
2. https://8085simulator.codeplex.com/
3 https://www.tutorialspoint.com/microprocessor/microprocessor_8085_architecture.htm