

Branch Name:	Electrical Engineering
Program Code:	ET109
Course Name:	Microprocessor and Interfacing Practical
CourseCode:	2ET1090404P
Pre-requisiteCourse:	Digital Electronics and Analog Electronics

Course Objectives:

1. To expose the architecture and instruction set of typical 8-bit microprocessor to the students.
2. To deals with Assembly Language Programming using a macro-assembler.
3. To learn and discuss theInput-outputtechniques and important programmable support chips used in microprocessor-based systems.

Teaching and Examination Scheme:

Credit	Teaching Scheme Hours per week				Evaluation Scheme (Marks)								Total (Marks)
					Theory (Marks)				Practical (Marks)				
	L	T	P	Total	SEE		CCA		SEE		CCA		
					Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
1	-	-	1	1	-	-	-	-	10	25	10	25	50

Course Contents:

Sr. No	Detail of Practical	Contact Hours
1	To study about 8085 Microprocessor using Dyna - 8085 kit.	04
2	Experiments based on Data Transfer Operations.	02
3	8-bit addition - subtraction, multiplication, division.	04
4	16-bit addition - subtraction, multiplication, division.	04
5	Find largest and smallest number from an array.	02
6	Arrange data bytes in ascending / descending order.	02
7	sum of positive number from an array and store the result at some memory location.	02
8	Experiments based on Data Conversion (Hex to Binary, Hex to BCD, ASCII to Decimal, etc.).	02
9	Generation of Square waveform at different frequencies.	02
10	Experiments based on Interfacing LEDs and Toggle Switches.	02
11	Experiments based on Interrupts.	02

Reference Books:

1. Short K. L., "Microprocessors and Programmed Logic", 2nd Ed., Pearson Education, 2008.
2. Fundamentals of Microprocessor and Microcomputers by B. RAM – 4th Edition – Dhanpat Rai Publications.

List of Open Source Software/learning website:

- GNU 8085 simulator
- NPTEL (www.nptel.ac.in)
- www.infineon.com
- www.silabs.com

Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom's Taxonomy Level
CLO1	Apply the concept of buses, microprocessor architecture and interrupts.	3 Applying
CLO2	Understand the interface memory and I/O devices with 8 bit microprocessor.	2 Understanding 4 Analyze
CLO3	Program the assembly language programming.	6 Creating
CLO4	Design microprocessor based small system.	6 Creating 4 Analyze
CLO5	Understand the generation of Square waveform at different frequencies.	2 Understanding
CLO6	Identify, formulate and solve largest and smallest number from an array.	4 Analyze 5 Evaluate

Mapping of CLOs with POs & PSOs:

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CLO1						L		H		M					M	L
CLO2	L			H				L					L	M		M
CLO3			M			L				M					L	
CLO4				L		H		M		M				M		L
CLO5					M			L				M	M			
CLO6	H				L	M		M		M			L		M	L

H: High, M: Medium, L: Low