National Institute of Technology Meghalaya

An Institute of National Importance

CURRICULUM

Programme	**Bachelor of Technology in Electrical and Electronics Engineering**	Year of Regulation	**2019-20**
Department	**Electrical Engineering**	Semester	**V**

Course Code	Course Name	Credit Structure					Marks Distribution		
		L	T	P	C	Continuous Assessment		Total
EE 355	**Microprocessors and Interfacing Lab.**	**0**	**0**	**2**	**1**	**10 Experiment**	**10**	**100**

Course Objectives		Course Outcomes		
	To introduce 8085 microprocessors kit		CO1	**To analyse basics of architecture of Microprocessors and 8085 kit.**
	To learn the basic programming and debugging skill		CO2	**To learn Assembly language programming and debugging techniques.**
	To develop an ability and skill for various programming settings		CO3	**To understand the addressing modes and Instruction set**
	To develop an ability and skill to interface peripherals with 8085.		CO4	**To understand the interfacing of programmable device with processor.**
			CO5	**To understand how to design a processing unit on FPGA board.**

No.	COs	Mapping with Program Outcomes (POs)												Mapping with PSOs		
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	**CO1**	3	3	0	2	2	0	0	0	0	0	0	0	0	3	2
2	**CO2**	3	3	3	3	3	0	0	0	2	0	0	1	0	3	3
3	**CO3**	3	3	3	3	3	0	3	0	0	0	0	0	0	3	3
4	**CO4**	3	2	3	2	3	0	3	0	3	0	0	1	0	3	3
5	**CO5**	3	2	0	0	1	0	2	0	0	0	0	1	0	3	2
6	CO6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SYLLABUS

No.	Content	Hours	COs
1	**Introductory Laboratory Class**	**02**	
2	**Familiarization with 8085 register level architecture and trainer kit components including the memory map.**	**02**	
3	**Programming using kit/simulator: arithmetical/logical operation on bytes/words, operation on arrays, data transfer, load/store etc.**	**02**	**CO1**
4	**Programming using kit/simulator: Multiplication and Division of Signed and Unsigned Numbers**	**02**	**CO2**
5	**Programming using kit/simulator: Arranging of data string.**	**02**	**CO3**
6	**Programming using kit/simulator: Code conversions.**	**02**	**CO4**
7	**Programming using kit/simulator: Display programming**	**02**	**CO5**
8	**Program exercises based on delay and subroutines**	**02**	
9	**Program exercises based on 8255 peripheral: identification of pins and ports**	**02**	
10	**Program exercise based on ADC/DAC interfacing**	**02**	
11	**Program exercise based on LCD interfacing**	**02**	
12	**Make-up laboratory Class**	**02**	
	Total Hours	**24**	

Essential Readings

1. R. Gaonker, "Microprocessor Architecture, Programming & Application with 8085", Penram International, 6th edition, 2013.

2. K M Bhurchandi, A K Ray, "Advanced Microprocessors and Peripheral", Tata McGraw Hill, 1st Edition, 2006

Supplementary Readings

1. James L. Antonakos, "An introduction to the Intel family of Microprocessors", Pearson Education, 3rd edition, 1998.
2. B. Ram, "Fundamentals of Microprocessors and Microcomputers", Dhanpat Rai, 3rd Edition, 1990.
3. A K. Mukhopadhyay, "Microprocessor, Microcomputer and their Applications", Narosa Publishing House, 2nd edition, 2001.
4. N. S. Kumar, M. Saravanan, "Microprocessors and Microcontrollers", Oxford University Press, 2nd edition, 2016.
5. D.V. Hall, "Microprocessor & Interfacing", McGraw Hill, 1st Edition, 2005