Branch: BCA	Semester-IV
Subject Code: 4102	Lecture: 04 Credit: 04
Course Opted	Core Course - 12
Subject Title	INTRODUCTION TO MICROPROCESSORS

Course Objectives:

- To learn and understand technical aspect of 8085 microprocessor.
- To understand the standard instruction set available for 8085 IC.
- To Design and develop various assembly language programs for 8085 IC and 8255 PPL.
- To learn the concept of interrupts
- To understand serial communication and interfacing.
- To understand advance microprocessor 8088/8086.

Course Outcomes:

- Understand the architecture and addressing modes of 8085 microprocessor and merory organization and its Interfacing.
- Understand various types of instructions and Instruction Cycled with proper timing diagrams.
- Develop various assembly language programs by usingdiffrent types if instructions and understand PPL interfacing.
- Understand 8259 interrupt controller IC with its internal organization and single and cascade operation.
- To understand 8086/8088 microprocessor, architecture, instruction set, addressing modes, simple programs, memory organization and interfacing.

Modules	Sr. No.	Topic and Details	No. of Lectures Assigned	Marks Weightage %
UNIT-I	1	**8086 Architecture**: 8086 Architecture-Functional diagram, Register Organization, Memory Segmentation, Programming Model, Memory addresses, Physical Memory Organization, Architecture of 8086, Signal description of 8086, interrupts of 8086.	8	16
UNIT-II	2	**Instruction Set and Assembly Language Programming of 8086**: Instruction formats,Addressing modes, Instruction Set, Assembler Directives, Macros, and Simple Programs involving Logical, Branch and Call Instructions, Sorting, String Manipulations	8	16
UNIT-III	3	**Programming in 8085:** Assembly language programming using 8085, 8255PPL and its interfacing	8	16
	4	**Interrupts:** Introduction, purpose of interrupts, Interrupt vectors, 8259-Interrupt Controller, Internal organization, pin out, Single and cascaded operation	8	16

UNIT-IV	5	**I/O Interface:** Serial data transmission, USART 8251 & its organization & interfacing with 8085, 8259 interrupt controller, its organization & interfacing with 8085,DMA controller 8257 & its organization.	8	16
	6	**Advance Microprocessor:** 8086/8088 microprocessor, architecture, instruction set, addressing modes, simple programs, memory organization and interfacing.	10	20
Total			**50**	**100**

Textbooks:

1. Microprocessor Architecture Programming ~ Application, with 8080/8085 by Ramesh S. Gaonkar.

References:

1. Microprocessor and Digital Systems by D.V.Hall.
2. 16 bit Microprocessor by Triebel and A. Singh.
3. 16 bit microprocessor by Liu and Gibson.