Paper Code: BCA-309	**L**	**T/P**	**C**
Paper: Microprocessor	**3**	**1**	**4**

Paper ID 20309

Pre-requisite :

- BCA 106 Digital Electronics and BCA 203 Computer Architecture

Aim

- To understand the architecture, programming and interfacing of microprocessors and their applications

Objectives

- To learn architecture , addressing modes and programming of a typical 8-bit microprocessor
- To learn architecture and programming of typical 16-bit microprocessors
- To learn microprocessor interfacing and applications

INSTRUCTIONS TO PAPER SETTERS: **Maximum Marks : 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be 12.5 marks.

UNIT – I

Introduction to Microprocessors , microcontrollers and microcomputers, Study of 8085 8 bit Microprocessor, pin-out, its internal architecture, addressing modes, 8085 Microprocessor complete instruction set and timing. Arithmetic, logic , branch instructions, programming techniques- looping, counting, indexing, stacks and subroutines, code conversion, BCD Arithmetic. **[T1]**

[No. of Hrs: 11]

UNIT - II

Counters and time delays using programming, Software development systems and assemblers, writing complete programs for 8085. Basic interfacing concepts, interfacing memory, interfacing keyboards and output displays , memory mapped and isolated I/O. Interrupts and their processing, 8259, Interrupt interface circuits using 8259. **[T1]**

[No. of Hrs: 11]

UNIT - III

General purpose programmable peripheral devices-8255,8253 programmable interval timer,8257 DMA controller, serial I/O and data communication,RS-232C standard, Serial I/O lines, 8251A Programmable communications interface.**[T1]**

[No. of Hrs: 11]

UNIT – IV

Introduction to 8086/8088 microprocessors, pin-out, architecture, segmented memory, timing diagrams, addressing modes, instruction set. Comparison of 8085, 8086, 8088 microprocessors **[T2]** **[No. of Hrs: 11]**

TEXT BOOKS:

[T1] Microprocessor Architecture, Programming & Application with 8085, Gaonkar, Penram Int. publication 2000.

[T2]. Lyla B. Das," The X86 Microprocessors" ,Pearson 2011

REFERENCE BOOK: