EE-603 Microprocessor and Its Applications

	Credit	L	T	P
	3	2	1	-

UNIT-I
Introduction to microprocessor, 8085 microprocessor: Architecture, instruction set, interrupt structure, and brief assembly language programming.

UNIT-II
Pin diagram and description of various signals, architecture, block diagram and details of sub-blocks such as EU, BIU; memory segmentation and physical address computations, program relocation, addressing modes, Interrupts and their description.

UNIT-III
Instruction execution timing, assembler instruction format, data transfer instructions, arithmetic instructions, branch instructions, looping instructions, NOP and HLT instructions, flag manipulation instructions, logical instructions, shift and rotate instructions, directives and operators.

UNIT-IV
Assembly language fundamentals, largest and smallest numbers in data array, sum of a series of 16 bit numbers, multibyte addition, 16 bit multiplication, division by 8 bit and 16 bit divisor, square root determination, BCD to hex conversion, factorial of given number.

UNIT-V
Serial and parallel I/O Chips (8251 and 8255), Programmable DMA Controller (8257), Programmable interrupt controller (8259), keyboard display controller (8279), Introduction to DMA process and DMA controller (8237), Data acquisition using A/D and D/C converters.

TEXT/REFFERENCE BOOKS
1. Microprocessors and Microcontrollers: Architecture, Programming and System Design 8085, 8086, 8057, 8096 by Krishna kant; published by Prentice Hall of India, 2007.
2. James L. Antonakes, "An Introduction to the Intel Family of Microprocessors", Published by Pearson Education Asia, Third Edition, 2002.
3. Advanced Microprocessors and Interfacing: Intel 8086 to Pentium 4 Processors by Badri Ram; published by Tata McGraw Hill Company Ltd. 2002.
4. Microprocessors-Theory and applications: Intel and Motorola by M. Rafiquzzaman; published by Prentice Hall of India, 2001.
5. A text of Microprocessors and Microcontrollers by R.S. Kaler published by I.K. International Publishing housePvt. Ltd., New Delhi, India, 2011.