UEI504 MICROPROCESSORS AND APPLICATIONS

	L	T	P	Cr
	3	1	2	4.5

History and Evolution: Background history of Microprocessors, Introduction to Basic features, General Architecture of Microprocessors, Recent trends and Applications,

INTEL 8085 Microprocessor: Pin Functions, Architecture, Addressing Modes, Instruction Set, Timing Diagrams, Interrupts, Programming Examples, Direct Memory Access, I/O Mapping.

Peripheral Controllers: USART (8251), RS-232C, Programmable Peripheral Interface (8255), Programmable Interrupt Controller (8259) and their applications.

INTEL 8086 Microprocessor: Pin Functions, Architecture, Characteristics and Basic Features of Family, Segmented Memory, Addressing Modes, Instruction Set, Data Transfer Instructions, Arithmetic, Logical, Shift and Rotate Instructions, String Instructions, Flag Control Instructions, Transfer of Control Instructions, Processor Control Instructions, Programming Examples, Interrupt Structures, Multitasking and Multiprogramming, MIN/MAX Modes of 8086,Co-processors 8087 and 8089.

Advanced Microprocessors: Main features, comparison of 80186, 80286, 80386, 80486 and Pentium processors. Case studies of Applications based on Microprocessors.

Laboratory work : Introduction to INTEL kit, Programming examples of 8085 and 8086. Interfacing using 8085, 8086 kits.. Interfacing of LED seven segment display, ADC, DAC, 8253, Printer, UP- PC Interface. Microprocessor based project .

COURSE LEARNING OUTCOME (CLO): The student will be able to

1. emonstrate the concept of microprocessor and to be able to design a microprocessor based system to get desired results.
2. Use 8086 microprocessor in advanced applications, which will give them a good platform to work further.
3. Update with current trends through self study and show genuine need to learn on continuous basis.

Text Books:
1. *Gaonkar, R. S., The 8085 Microprocessor- Architecture, Programming and Interfacing, Penram International Publishing (India) Pvt. Ltd. (2004).*
2. *Hall, D.V., Microprocessor- Interfacing Programming and Hardware, Tata McGraw –Hill (1997).*

Reference Books:
1. *Brey, B.B., The INTEL Microprocessors, Prentice –Hall of India Private Limited (2002).*
2. *Liu, Y. C. and Gibson, G.A., Microcomputer Systems: The 8086/8088 Family – Architecture, Programming and Design, Prentice –Hall of India Private Limited (2007).*
3. *Uffenbeck, J., The 8086/ 8088 Family, Prentice –Hall of India Private Limited (1994).*

Evaluation Scheme:

Sr. No.	Evaluation Elements	Weightage (%)
1	MST	25
2	EST	35
3	Sessionals (May include Assignments/Projects/Tutorials/Quizzes/Lab Evaluations)	40