EC-402: MICROPROCESSORS & PERIPHERALS

Teaching Scheme			Credits	Marks			Duration End Semester Examination
L	T	P/D	C	Sessional	End Semester Exam	Total	
3	1	0	4	40	60	100	3 hrs

COURSE CONTENT:

UNIT	CONTENT	No. of Hrs.
I	**Introduction:** Evolution of microprocessor, 8085 microprocessor: features, architecture and pin configuration; 8085 instruction: instruction word size, opcode format, data format, addressing modes; 8085 machine cycles and timing diagrams. **Typical instruction set of 8085:** Data transfer instructions, arithmetic instructions, logic and bit manipulation instructions, branch instructions, machine control instruction.	10
II	**Programming:** Development of assembly language program. **Interrupts & data transfer:** Interrupt system of 8085, Stack and subroutine. **Memory interfacing:** Types of memory, memory map and address range, memory interfacing decoding techniques: absolute and partial.	10
III	**I/O interfacing:** Basic interfacing concept using mapping techniques: I/O mapped I/O and memory mapped I/O **Serial I/O:** Basic concepts in serial I/O, asynchronous serial data communication using SOD and SID. **Peripheral devices & applications of microprocessor:** Description of the 8251 programmable communication interface, the 8255 programmable peripheral interface, the 8257 DMA controller.	10
IV	**Trends in microprocessor Technology:** 8086/8088 microprocessor: main features, architecture-the execution unit and bus interface unit, memory segmentation, memory addressing, 8086/8088 hardware pin signals, 8086 minimum and maximum modes of operation; introduction to 8087 floating point coprocessor and its connection to host 8086.	9

Text Books:
1. Gaonkar, *"Microprocessor Architecture, Programming and Application with 8085"*, PHI.
2. D.V.HALL, *"Microprocessors and Interfacing"*, McGraw Hill.
3. Senthil, Saravanam, *"Microprocessor and Microcontrollers"*, Oxford University Press.

41

Dean
H.P. Technical University
Hamirpur - 177001

Reference Books:
1 A.P. Mathur, *"An Introduction to Microprocessor"*, TMH.
2 Kenneth J Ayala, *"The 8086 Microprocessor"*, Cengage Learning
3. B.Ram, *"Fundamentals of Microprocessor & Microcomputers"*, Dhanpat Rai & Co.