II Year B.Tech. Mechatronics II - Semester	L	T	P	T	C
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EC218 MICROPROCESSORS AND MICROCONTROLLERS

Objectives of the Course:

To develop an in-depth understanding of the operation of microprocessors and Microcontrollers, machine language programming & interfacing techniques.

UNIT – I

The 8085 Microprocessor : Introduction to 8085, Microprocessor architecture, Instruction set, Programming the 8085, Code conversion.

UNIT – II

8086 Software Aspects : Intel 8086 microprocessor, Architecture, Instruction set and assembler directives, Addressing modes, Assembly language programming, Procedures, Macros, Interrupts and interrupt service routines.

UNIT – III

8086 System Design : 8086 signals and timing, MIN/MAX mode of operation, Addressing memory and I/O, Multiprocessor configurations, System design using 8086.

UNIT – IV

I/O Interfacing : Memory Interfacing and I/O interfacing, Parallel communication interface, Serial communication interface, Timer, Keyboard / display controller, Interrupt controller, DMA controller, Programming and applications.

UNIT – V

Microcontrollers : Architecture of 8051, Signals, Operational features, Memory and I/O addressing, Interrupts, Instruction set, Applications.

TEXT BOOKS :

1. Ramesh S.Gaonkar, "Microprocessor - Architecture, Programming and Applications with the 8085", 5th ed., Penram International publishing private limited.
2. A.K. Ray & K.M.Bhurchandi, "Advanced Microprocessors and peripherals- Architectures, Programming and Interfacing", Tata McGraw Hill, 2002

REFERENCE BOOKS:

1. Douglas V.Hall, "Microprocessors and Interfacing: Programming and Hardware", 3rd ed., Tata McGraw Hill.
2. Yu-cheng Liu, Glenn A.Gibson, "Microcomputer systems: The 8086 / 8088 Family architecture, Programming and Design", Prentice Hall India, 2003
3. Mohamed Ali Mazidi, Janice Gillispie Mazidi, "The 8051 microcontroller and embedded systems", Pearson education, 2004.