

EE505 Microprocessors & Microcontrollers 3 1 - 4 4

UNIT 1 : Intel 8086 Microprocessor: Architecture, register organization, Addressing modes, Instruction set. Signal description, Memory segmentation. Minimum and maximum modes of operations of 8086.

UNIT 2Assembly language programming: Assembler directives, simple programs using data transfer, arithmetic, logical, and Branching instructions. Procedures and macros. Memory interfacing to 8086: Static RAM & EPROM. Dynamic RAM.

UNIT 3: Parallel data transfer schemes: 8255-PPI, Interfacing of switch/display, stepper motor, D/A and A/D converters, 8279, 8259-PIC interrupt controller, 8257-DMA. Serial data transfer schemes: 8251-USART interfacing. RS -232C standard.

UNIT 4: Advanced Microprocessors: 80386 Special function registers, Memory management, moving to protected mode, virtual mode, and memory paging mechanism. Introduction to the 80486 Microprocessor, Pentium and Pentium-Pro Microprocessor, and their special **features**.

UNIT 5: Intel 8051 Micro controller: 8051 Architecture, pin functions, register organization, memory interfacing, addressing modes, instruction set, I/O ports, Timers/Counters, Serial Communication, Interrupts structure. Assembly language programming with 8051.

Reference Books :

- 1.Y.Liu and G.A. Gibson, "Micro Computer Systems, The 8086/8088 Family Architecture, Programming and Design", 2nd ed., PHI.
2. Mike Predco, "8051 Micro controllers", TMH
3. Kenneth J. Ayala, "8086 Microprocessors", Penram International