

Microprocessors

Written by Administrator

Saturday, 07 November 2009 07:18 -

Subject Code

:

06EC62

IA Marks

:

25

No. of Lecture Hrs/ Week

:

04

Exam Hrs

:

03

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Total no. of Lecture Hrs.

:
:

52

Exam Marks

:
:

100

PART - A

UNIT - 1 History of Microprocessor, Generation of Microprocessor, Evolution of Microprocessor, Structure of 8086 Processor, Internal Organization of 8086 Processor, Addressing Modes, Instruction Format, Instruction Cycles, Instruction Execution Timing, Instruction Pipelining, Cache Memory, Cache Organization, Cache Control, Cache Performance.

The 8086 Processors: Historical background, The microprocessor-based personal computer system, 8086 CPU Architecture, Machine language instructions, Instruction execution timing,

7 Hours

Unit - 2 History of Microprocessor, Generation of Microprocessor, Evolution of Microprocessor, Structure of 8086 Processor, Internal Organization of 8086 Processor, Addressing Modes, Instruction Format, Instruction Cycles, Instruction Execution Timing, Instruction Pipelining, Cache Memory, Cache Organization, Cache Control, Cache Performance.

Instruction Set of 8086: Assembler instruction format, data transfer and arithmetic, branch type, loop, NOP & HALT, flag manipulation, logical and shift and rotate instructions. Illustration of these instructions with example programs, Directives and operators.

7 Hours

Unit - 3 String instructions, REP Prefix, Table translation, Number format conversions, Procedures, Macros, Programming using keyboard and video display.

6 Hours

Unit - 4 8086 Interrupts and interrupt responses, Hardware interrupt applications, Software interrupt applications, Interrupt examples.

6 Hours

PART - B

Unit - 5 Interfacing microprocessor to keyboard (keyboard types, keyboard circuit connections and interfacing, software keyboard interfacing, keyboard interfacing with hardware), Interfacing to alphanumeric displays (interfacing LED displays to microcomputer),

8086 Interfacing: Interfacing microprocessor to keyboard (keyboard types, keyboard circuit connections and interfacing, software keyboard interfacing, keyboard interfacing with hardware), Interfacing to alphanumeric displays (interfacing LED displays to microcomputer),

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Interfacing a microcomputer to a stepper motor.

6 Hours

Unit - 6

8086 / 8088 based Multiprocessing Systems: Coprocessor configurations, The 8087 numeric data processor: data types, processor architecture, instruction set and examples.

6 Hours

Unit - 7

System Bus Structure: Basic 8086 configurations: minimum mode, maximum mode, Bus Interface: peripheral component interconnect (PCI) bus, the parallel printer interface (LPT), The universal serial bus (USB).

7 Hours

Unit - 8

80386, 80486 And Pentium Processors: Introduction to the 80386 microprocessor, Special 80386 registers, Introduction to the 80486 microprocessor, Introduction to the Pentium microprocessor.

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7 Hours

Textbooks:

1. **Microcomputer systems** -The 8086 / 8088 Family – Y.C. Liu and G. A. Gibson, 2E PHI -2003.
2. **The Intel Microprocessor, Architecture, Programming and Interfacing**-Barry B. Brey, 6e, Pearson Education / PHI, 2003.

Reference books:

1. **Microprocessor and Interfacing** - Programming & Hardware, Douglas hall, 2e TMH, 1991.
2. **Advanced Microprocessors and Peripherals** - A.K. Ray and K.M. Bhurchandi, TMH, 2001.
3. **8088 and 8086 Microprocessors** - Programming, Interfacing, Software, Hardware & Applications - Triebel and Avtar Singh, 4e, Pearson Education, 2003.