

CS -601: Microprocessor

Microprocessor architecture: 2 L

Internal architecture, Programming model

[1] Article 2.1 Page 51 to 58

Memory Addressing: 6L

Real mode and protected mode operation, Program invisible register

[1] Article 2.2-2.3 Page 58 to 68

Addressing modes: 5 L

Data addressing modes, Program memory addressing modes and Stack memory addressing modes

[1] Article 3.1-3.3 Page 78 to 105

Microprocessor programming: 8L

Machine language, Instruction formats, String data transfer instructions, Program control instructions, Assembly language programming

[1] Article 4.1-4.5, 6.1-6.3 Page 112 to 142, 192 to 212

8088/8086 Hardware Specifications : 6L

Pin-outs and pin functions, Clock generator, Bus buffering and latching, bus timing

[1] Article 9.1-9.5 Page 302 to 322

Memory Interfacing: 6L

Memory address decoding, 8-bit and 16-bit memory interfacing.

[1] Article 10.2-10.4 Page 340 to 363

I/O interfacing:

7L

Introduction to I/O interface, address decoding, Programmable Peripheral Interface, Timer

[1] Article 11.1 (Up to page 380), 11.2, 11.3, 11.4 Page 377 to 379, 387-398, 414- 420, 423-428

Interrupts & Direct Memory Access

8L

Interrupt controller, DMA controller

[1]Article 12.1- 12.2, 13.1-13.2 (Up to page 516) Page 451 to 465, 490 to 506

Recommended Reading Material

Text Books

1. Barry B. Brey, *The Intel Microprocessors : Architecture, Programming and Interfacing*. 8th edition, Pearson Education, 2009.

Reference Books

2. Walter A Triebel, Avtar Singh; *The 8088 and 8086 Microprocessors Programming, Interfacing, Software, Hardware, and Applications*. 4th edition PHI, 2005.
3. Liu Gibson, *Microprocessor Systems: The 8086/8088 family Architecture, Programming & Design*, PHI, 1999.

LIST OF PRACTICALS PAPER NO- CS-601: MICROPROCESSORS

ASSEMBLY LANGUAGE PROGRAMMING

1. Write a program for 32-bit binary division and multiplication
2. Write a program for 32-bit BCD addition and subtraction

3. Write a program for Linear search and binary search.

4. Write a program to add and subtract two arrays

5. Write a program for binary to ascii conversion

6. Write a program for ascii to binary conversion