



MODULE 1 - THE INTEL MICROPROCESSOR 8086 ARCHITECTURE

- Explain the Maximum and Minimum mode of 8086
- Draw the timing diagrams for Read and Write operations in minimum and maximum mode [VIMP]
- Explain and draw IVT? Differentiate between hardware and software interrupts?
- Explain the interrupt structure of the 8086 processor.
- What is the advantage of Memory Banking in an 8086 Processor? Justify with an example.

30 - 35 MARKS



MODULE 1 - THE INTEL MICROPROCESSOR 8086 ARCHITECTURE

- Design 8086 microprocessor Numericals [V IMP]

Design 8086 microprocessor-based on following specifications:

- 1.1. MP 8086 working at 10MHz minimum mode.
- 2.2. 32 KB ROM using 8 KB Devices
- 3.3. 16 KB RAM using 4KB chips



MODULE 2 – INSTRUCTION SET & PROGRAMMING

20 - 25 MARKS

1. Write an Assembly Language Program for :

- ADD 2 Numbers
- Exchange contents of two memory blocks
- Reverse a string of 10 characters.
- Print the flag registers
- Searching a Character in a Given String

2. Explain the following instructions: STOSB, DAA related to 8086.

3. Explain the following instructions: XLAT, DAA, LAHF, AAA related to 8086.





MODULE 3 – MEMORY & PERIPHERAL INTERFACES

30 MARKS

1. Explain 8255 with a block diagram and its operating modes
2. Explain Mode 2 of 8255 with a neat block diagram. Show the CWR initialization.
3. Explain the 8257 DMA controller with the help of a neat diagram and explain its Control Register Format.
4. Interface DMA controller 8257 with 8086 MP. Explain different data transfer modes of 8257 DMAC
5. Explain the Initialization command words (ICWs) and Operational command words(OCWs) of the 8259 PIC. [**V IMP**]
6. Draw and Explain the Master Slave Mode of 8259 Processor with a Suitable example. Consider Slave 8259 connected to IRO and IR4 of master.





MODULE 4 - INTEL 80386DX PROCESSOR

15 – 20 MARKS

1. Discuss in brief the protection mechanism of 80386DX [V IMP]
2. Explain descriptors and paging mechanisms in protected mode of 80386? [V IMP]
3. Explain the Register organization of 80386. [EFlag Register]
[V IMP]
4. Explain real Mode, Virtual Mode and Protected Mode of 80386 Processor.





MODULE 6 – PENTIUM 4

15 – 20 MARKS

1. Explain Pentium 4 Net burst microarchitecture and



write a note on hyperthreading [VIMP]

2. Explain hyper threading technology and its use in

Pentium

3. Compare 80386 ,Pentium 1 ,Pentium 2 and Pentium 3

Processor.

