

Duration: 3hrs**[Max Marks:80]**

N.B. : (1) Question No 1 is Compulsory.

(2) Attempt any three questions out of the remaining five.

(3) All questions carry equal marks.

(4) Assume suitable data, if required and state it clearly.

- 1 Attempt any FOUR [20]
- Explain the following instructions: STOSB, DAA related to 8086.
 - Discuss in brief the protection mechanism of 80386DX
 - Explain the maximum mode of 8086
 - Explain in brief cache organization of Pentium processor
 - Write an assembly language program for 8086 to exchange contents of two memory blocks
- 2 a Draw the timing diagrams for Read and Write operations in minimum and maximum mode [10]
- b Explain hyper threading technology and its use in Pentium 4 [10]
- 3 a Interface DMA controller 8257 with 8086 MP. Explain different data transfer modes of 8257 DMAC [10]
- b Write an ALP for 8086 to reverse a string of 10 characters. [10]
- 4 a Compare 80386, Pentium 1, Pentium 2 and Pentium 3 Processor. [10]
- b Explain MESI protocol [10]
- 5 a Explain the Register organization of 80386. [10]
- b Explain the Initialization command words (ICWs) and Operational command words (OCWs) of the 8259 PIC. [10]
- 6 a Design 8086 microprocessor-based on following Specifications: [10]
- MP 8086 working at 10MHz minimum mode.
 - 32 KB ROM using 8 KB Devices
 - 16 KB RAM using 4KB chips
- b Explain 8255 with a block diagram and its operating modes [10]
