

(3 Hours)

[80 Marks]

- N.B.** 1) Question No. 1 is compulsory.
 2) Attempt any **Three** questions out of remaining.
 3) Assume suitable data wherever necessary and state them clearly.

- Q.1 a) Draw and explain memory read machine cycle timing diagram in minimum mode of 8086. 5
 b) Write a short note on mixed language programming. 5
 c) Explain flag register of 80386 microprocessor. 5
 d) Give formats of initialization command words(ICW's) of 8259 PIC. 5
- Q. 2 a) Explain the maximum mode configuration of 8086 microprocessor. 10
 b) Design 8086 based system for following specifications:
 i) 8086 in minimum mode with clock frequency 5MHz.
 ii) 64 KB EPROM using 16KB*8 chips
 iii) 16 KB RAM using 8KB*8 chips 10
- Q. 3 a) Explain the branch prediction logic used in Pentium processor . 10
 b) Draw and explain the block diagram of 8257 DMA controller. 10
- Q.4 a) Explain the modes of operation of 80386 microprocessor . 10
 b) i) Explain the I/O mode control word format of 8255 PPI . 5
 ii) Explain an instruction issue algorithm of Pentium processor. 5
- Q.5 a) Differentiate procedure and macro. Write a program to find the factorial of a number using procedure. 10
 b) Explain the interrupt structure of 8086 microprocessor 10
- Q.6 a) Explain segmentation of 8086 microprocessor. Give its advantages. 10
 b) Explain different addressing modes of 8086 microprocessor. 10
