

Time: 3 Hours**Marks: 80****N.B:** 1) Question No. 1 is compulsory.

2) Attempt any three questions from the remaining six questions.

3) Figures to the right indicate full marks.

4) Assume suitable data.

- Q1) a) Distinguish between CISC and RISC (04)
 b) Write a short note on Pipelining (04)
 c) Explain the exceptions of 8087 (04)
 d) Explain the following instructions (04)
 i. RCR Des, Count ii. MOVSB iii. INTO
 e) Explain 8087 stack (04)
- Q2) a) Design a 8086 - 8087 based system with the following specifications: (10)
 i. CPU with 8 MHz
 ii. 64 KB EPROM using 16 KB chips
 iii. 128 KB RAM using 32 KB chips
 b) Write a program to find the area of a square using the numeric processor 8087 (10)
- Q3) a) Discuss memory segmentation stating its advantages and disadvantages (10)
 b) Discuss the Based Indexed Addressing mode and Register Indirect Addressing mode giving examples? (10)
- Q4) a) Draw and explain the working of 8255 in mode 1 input mode with its timing diagram (10)
 b) Write a program to find the average of a series of 10 bytes stored in an array. (10)
- Q5) a) Explain the Read and Write cycle in Max Mode (10)
 b) Explain the interrupt structure of 8086 (10)
- Q6) Write short notes on (any 4) (20)
 a) Data transfer modes of 8237 DMA controller
 b) Generation of 20 bit physical address generation
 c) Control word of 8087
 d) Interrupt sequence for Single 8259
 e) Coprocessor Interfacing of 8087-8086