Time Duration: 3 hrs. **Max Marks: 80**

Note

a. Q.1 is compulsory

b. Solve any 3 questions out of the remaining questions

c. Figures to the right indicate full marks

Q.1 Solve **any 4**

a. List the prominent features of super-scalar architecture. (5)

b.State advantages of segmentation in 8086. (5)

c. State the significance of queue in pipelining in 8086. (5)

d. Explain the significance of following pins in 8086.

i) INTR ii) TEST* iii) DEN* iv)BHE/S7 v)ALE (* indicates bar) (5)

e. Explain memory banking in 8086. (5)

Q.2 a. Draw and explain minimum mode operation of 8086. (10)

b. Draw and explain timing diagram for i) read ii) write cycle in 8086. (10)

Q.3 a. Explain different addressing modes of 8086 with example. (10)

b. Explain interrupt structure in 8086 (10)

Q.4 a. Show interfacing of 8259 with 8086 in single mode and explain significant pins. (10)

b. Write a program to blink port C bit 2 of 8255. Assume address of CWR of 8255 as 83H.Use bit Set/Reset mode. (5)

c. Explain any 2 operating modes of DMA 8257. (5)

Q.5 a. Draw and explain interfacing of 8086-8087 math-coprocessor. (10)

b. Write a program in 8086 to exchange block of data consisting of 5 bytes at 1000H and 02000H using string instructions. (5)

c. Explain following instructions in 8086. (5)

i) LOOPE/ LOOPZ ii) JE/JZ iii) Call

Q.6 Write short notes on **any 4** (20)

a. DOS interrupts.

b. Intel Pentium processor – Branch Prediction Logic

c. Mode 1 operation of 8255PPI

d. ICW's and OCW's in 8259

e. Operation of DMA controller

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