

B. Tech Degree IV Semester Examination April 2012**CS/EC/EB/EI 402 MICROPROCESSORS**
(2006 Scheme)

Time : 3 Hours

Maximum Marks : 100

PART A(Answer ALL questions)

(8 x 5 = 40)

- I. (a) Describe the function of the following PINS in 8085:
(i) READY (ii) HOLD
- (b) Explain the purpose of each flag in the flag register of 8085.
- (c) With an example, explain the following instructions: (i) DAD (ii) RAR
- (d) Write a delay routine for an 8085 processor working at a 2 MHz clock frequency to provide a delay of 1 millisecond.
- (e) Differentiate between maskable and non maskable interrupts in 8085. Also explain how masking of interrupt is done.
- (f) Explain the terms: (i) T-state (ii) instruction cycle (iii) Machine cycle.
- (g) Explain BSR mode in 8255.
- (h) With the help of a diagram, explain how a memory chip is interfaced to 8085.

PART B

(4 x 15 = 60)

- II. (a) What is meant by multiplexed address/data bus in 8085? Explain how its demultiplexing is done in detail. (8)
- (b) Explain the register organization of 8085 in detail. (7)
- OR**
- III. (a) Draw and explain the block diagram of 8085. (10)
- (b) Explain the serial communication and DMA features in 8085. (5)
- IV. (a) Explain stack and its application. With suitable example, show how data storage/retrieval is done in a stack. (8)
- (b) Explain addressing modes of 8085 with examples. (7)
- OR**
- V. (a) Write an assembly language program to find the smallest of 'n' numbers stored at consecutive memory locations starting from address 5001 H. Value of n is stored at address 5000H and the result need to be stored at location 6000H. (10)
- (b) Explain the instructions: (i) LH LD (ii) XT HL (5)
- VI. (a) Draw the timing diagram for the instruction STA 4000 H. (10)
- (b) Differentiate between hardware interrupts and software interrupts with examples. (5)
- OR**
- VII. (a) Describe the interrupt organization of 8085. Explain the steps involved in handling an interrupt by 8085. (8)
- (b) Draw the timing diagram for the instruction MOV A,B. (7)
- VIII. Draw the block diagram of programmable timer 8253. Explain its modes of operation in detail. (15)
- OR**
- IX. (a) Explain the transmitter section of 8251 in detail. (10)
- (b) Briefly explain various ports in 8255. (5)