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SF-8181

B. E. II (Sem - IV) (EL/EC/IC/Comp) Examination

May / June – 2011

Microprocessor & Interfacing

Time : Hours] [Total Marks : **100**

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **B. E. II (Sem - IV) (EL/EC/IC/Comp)**

Name of the Subject :

☛ **Microprocessor & Interfacing**

☛Subject Code No. : **8 1 8 1** ☛Section No. (1, 2,.....) : **NIL**

Seat No. :

Student's Signature

(2) Attempt all questions.

(3) Figure to the right indicate marks.

(4) Assume necessary data wherever required.

(5) Write algorithm or draw blowchart of programme logic.

1 (a) Fill in the blanks. **5**

(1) The control signal needed for memory write operation is _____.

(2) If starting address of a 4G RAM is 4000 H. then the end address is _____.

(3) _____ signal is used to de-multiplex the bus AD_0-AD_7.

(4) The numbers of bits used in flag register is _____.

(5) In order to address 8K byte of memory, the number of address line required is _____.

(b) Explain the function of any two of the pins of 8085. **5**

(i) $\overline{RD}$

(ii) INTR

(iii) HOLD

(c) Explain address bus, data bus and control bus of 8085 along with their uses. **5**

(d) Discuss the difference between memory mapped I/0 and peripheral mapped I/0 **5**

2 (a) Draw an interfacing scheme to interface common cathod seven segment display and write instruction to display digit 5. **8**

(b) Draw & explain timing diagram of IN FF H instruction. **7**

OR

2 (a) Explain how control signals are generated ? Also explain how the bus AD_0-AD_7 is demultiplexed. **8**

(b) Draw & explain timing diagram of STA 3050 H. **7**

3 Attempt any two. **15**

(1) Draw & explain internal below diagram of 8255 chip. List various modes of 8255 chip.

(2) Draw interfacing scheme for one (4k×8) RAM and two (8k×8) ROM with 8085. Specify its address range.

(3) Explain 8279 with the help of block diagram.

(4) Draw an interfacing scheme to interface DTP switches having port address FF H with 8085.

4 (a) Attempt the following :

(1) The LDA 9000H is _____ byte instruction and it uses _____ addressing mode. **1**

(2) Explain any two instruction from the following : **4**
(i) DCX H (ii) XRA A (iii) ADD B

(3) How many times the following loop will be executed ? **2**

```
        LXI B, 0008 H
LOOP :  NOP
        DCX B
        JNZ LOOP
```

(4) What is subroutine program ? Explain its use. **3**

(b) Write a program to add two 8 bit and 18 H and 20 H. Store the result at 9000H. **4**

(c) Explain the software model of IC 8085. **6**

5 Attempt any three. **15**

(1) Explain the hardware model of IC 8085.

(2) Write a program to find factorial of a given value.

(3) Write program to multiply two-8bit numbers stored at memory location 1000H and 1001 H. Store the result at 2000H.

(4) Write a program to transfer 10 data bytes stored at memory location 2000 H to 3000 H memory location.

(5) Write a program to add two BCD numbers stored at memory location 2003 H and 2004 H store the result at 2005 H.

6 Attempt any three : **15**

(1) Explain any one programmable DMA controller.

(2) Explain vector interrupt of 8085.

(3) Draw an interfacing scheme to interface 8-bit DAC with 8085.

(4) What are the steps preferred by 8085 when it receives an interrupt signal on INTR pin.

(4) Explain BSR mode of 8255 chip along with its control word format.
