T.Y.B.Sc. (With Credits)-Regular-Semester 2012 Sem V

B.Sc.3516-Electronics : Paper-I (Compulsory)
(Microprocessor, Interfacing & PPI Devices)

P. Pages : 2 **GUG/S/16/3362**

Time : Three Hours * 2 0 6 8 * Max. Marks : 50

Notes : 1. All questions are compulsory and carry equal marks.
2. Draw neat and well labelled diagram wherever necessary.

1. Either :

a) Draw the block diagram of 8085 μp and explain the function of each block. **7+3**
Explain PC and SP with respect to 8085 μp.

OR

b) Explain the address and data line multiplexing of 8085 μp. Also state its advantages. **5+5**
Draw and explain the memory read machine cycle in detail.

2. Either :

a) Explain four stack related instructions. **4+6**
Write an ALP for 8085 μp to find 1's and 2's complement of an 8bit hexadecimal number stored at memory location 6500H. and store the result at ML 6501H & 6502H.

OR

b) State and explain various addressing modes of 8085 μp.
Write an ALP for 8085 μp to subtract 8-bit Hexadecimal numbers from another Q bit hexadecimal number. The two Hex numbers are stored at ML 6500H and 6501H and store the result at ML 6502H.

3. Either :

a) What is meant by interfacing ? State and explain the need of interfacing ? **10**
Explain the memory mapped I/O scheme and I/O mapped I/O scheme in detail.

OR

b) Explain the interrupt driven data transfer scheme. **5+5**
State various interrupts in 8085 μp. Explain

i) Vectored and nonvectored interrupts

ii) Maskable and nonmaskable interrupts

4. **Either :**

a) Discuss the operating modes of 8255 PPI in brief. **10**
Write the control word for
Port A – Input Port
Port B – Output Port
Port C_U – Input port
Port C_L – Output port

OR

b) Draw the schematic diagram with I/O signals of programmable DMA controller 8257. **10**
And explain it's operation.

5. a) State the use of following pins of 8085 μp. **2½**

i) $\overline{\text{Reset in}}$
ii) Reset out
iii) Clock out

b) Explain the following instructions with example. **2½**
i) LHLD 16 bit address
ii) STA address

c) Explain cycle stealing mode of DMA data transfer scheme. **2½**

d) Give the control word format of 8255 PPI I/O mode. **2½**

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