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

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

P. Pages : 1 **GUG/S/18/3362**

Time : Three Hours * 0 5 4 5 * Max. Marks : 50

Notes : 1. All questions are compulsory and carry equal marks.
2. Draw neat & labelled diagrams wherever necessary.
3. Use of log table / calculator is allowed.

1. Either

a) Draw a block diagram of 8085 microprocessor and explain function of each block in it. **7+3**
Explain the function of various flags in 8085 microprocessor.

OR

b) What is an instruction? Explain 1 byte, 2 byte and 3 byte instruction. **5+5**
State whether following instructions are one byte, two byte or three byte?
i) MOV M,A ii) ADD B
iii) MVIA, 05H iv) ADI, data
v) LXI H, 5000H

2. Either

a) Explain the meaning of following instructions. **10**
i) SBB r ii) ADD C
iii) XRAA iv) HLT
v) MOV M,B

OR

b) State various groups of instruction set in 8085 μP with one example of each. **5+5**
Write an ALP to perform addition of three 8-bit numbers stored in memory location 6500H, 6501H, 6502H.

3. Either

a) What is need of interfacing? Explain with suitable example. **5+5**
Explain burst mode and cycle stealing in DMA data transfer scheme.

OR

b) Explain: **5+5**
i) Memory mapped I/O scheme. ii) I/O mapped I/O scheme.

4. Either

a) Draw block diagram of 8255 PPI and explain function of each block. **7+3**
Explain BSR mode of 8255 PPI.

OR

b) Explain operation of Intel 8253 in mode 0 and mode 1. **7+3**
Explain control word format of 8253 Interval timer.

5. a) Explain data, address and control bus. **10**
b) Explain JNZ and JZ instructions in 8085 microprocessor.
c) Explain interrupt driven data transfer scheme.
d) Draw schematic diagram of DMA controller 8257.

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