

B.Sc.T.Y. (With Credits)-Regular-Semester 2012 Sem V  
**B.Sc.3516 : Electronics : Paper-I (Compulsory)**  
**(Microprocessor, Interfacing & PPI devices)**

P. Pages : 2

Time : Three Hours



**GUG/W/16/3362**

Max. Marks : 50

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

**Either:**

1. a) Draw a block diagram of 8085  $\mu$ p and explain register array in it **10**  
Explain the functions of following flags.  
i) Carry status (CS) ii) Auxiliary carry (AC)  
iii) Zero flag (Z) iv) Parity flag (P)  
v) Sign Flag (S)

**OR**

- b) What is an instruction ? Explain 1 byte, 2 byte and 3 byte instructions with examples. **10**  
Define.  
i) Fetch cycle ii) Machine cycle  
iii) T-States iv) Opcode  
v) Operand

**Either:**

2. a) Explain two stack related instructions with suitable examples. **10**  
Write an ALP for 8085  $\mu$ p to find 1's and 2's complement of an 8 bit hexadecimal number stored at memory location 6500H. and store the result at ML 6501H and 6502H.

**OR**

- b) Explain any two conditional branch instructions with the help of examples. **10**  
Explain the meaning of following instructions.  
i) MOV M,A ii) MVI A, 05 H  
iii) SUB r iv) ADD B  
v) ADI data

**Either:**

3. a) What is interfacing ? Explain the needs of interfacing with its advantages. **10**  
Explain burst mode and cycle stealing in DMA data transfer scheme.

**OR**

- b) Explain the interrupt driven data transfer scheme. State various interrupts in 8085  $\mu$ p. **10**  
Explain:  
i) Vectored and nonvectored interrupts,  
ii) Maskable and nonmaskable interrupts

**Either:**

4. a) Draw the block diagram of 8255 PPI and Explain in brief. **10**  
Explain BSR mode and I/O mode of 8255 PPI.

**OR**

- b) Explain the control word format of 8253 interval timer. **10**  
What is DMA controller ? Explain schematic diagram of programmable DMA controller (8257).
5. a) State the use of following pins of 8085  $\mu$ p. **2½**  
i)  $\text{IO}/\overline{\text{M}}$  ,  
ii) ALE
- b) Explain JMP instruction in 8085  $\mu$ p with suitable example. **2½**
- c) Differentiate synchronous and asynchronous data transfer scheme. **2½**
- d) Explain BSR mode in 8257 DMA controller. **2½**

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