



GUG/W/15/3362

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

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

P. Pages : 4

Time : Three Hours

Max. Marks : 50

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- Notes : 1. All questions are compulsory and carry equal marks.
2. Draw a diagram wherever necessary.
3. Use of log table / calculator is allowed.

1. EITHER

- a) Draw a block diagram of 8085 **5**
microprocessor and explain register array in it.
- b) Explain the function of following flags :- **5**
- i) Carry status (CS)
 - ii) Auxiliary carry (AC)
 - iii) Zero flag (Z)
 - iv) Parity flag (P)
 - v) Sign flag (S)

OR

- c) What is an instruction? Explain 1 byte, 2 byte and 3 byte instructions with examples. **5**
- d) Define : **5**
- i) fetch cycle
 - ii) machine cycle
 - iii) T-states
 - iv) opcode
 - v) operand

2. EITHER

- a) What is an addressing mode? Explain register indirect and implicit addressing mode with suitable examples. **5**
- b) Explain the meaning of following instructions : **5**
- i) MOV M, A
 - ii) MVI A, 05 H
 - iii) SBB r
 - iv) ADD B
 - v) ADI, data

OR

- c) State various groups of instructions in 8085 with one example of each. **5**

- d) Write an ALP program to perform multiplication of any two 8-bit numbers. **5**

3. EITHER

- a) What is the need of interfacing? Explain with suitable example. **5**

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

OR

- c) Explain the synchronous and asynchronous data transfer scheme in microprocessor. **5**

- d) Explain the burst mode and cycle stealing in DMA data transfer scheme. **5**

4. EITHER

- a) Explain the block diagram of 8255 PPI. **5**

- b) Explain BSR mode and I/O mode of 8255 PPI. **5**

OR

- c) Explain the control word format of 8253 Interval timer. **5**
- d) Explain the operation of Intel 8253 in mode 0 and mode 1. **5**
- 5.**
 - a) Explain data, address and control bus. **2½**
 - b) Explain JMP instruction in 8085 μ p. **2½**
 - c) Explain interrupt driven data transfer scheme. **2½**
 - d) Draw a schematic diagram of Intel 8257 DMA controller. **2½**
