B.Tech. VI - Semester (Main & Back) Examination, April-2019
Electronics & Communication Engineering
6EC2A Microprocessors

Time : 3 Hours

Maximum Marks : 80
Min. Passing Marks : 26

Instructions to Candidates:

Attempt any Five questions, selecting One question from each unit. All questions carry equal marks. (Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly.) Units of quantities used/calculated must be stated clearly.

Unit - I

1. Explain and Draw the Block Diagram as well as PIN Diagram of 8085 microprocessor.

(16)

(OR)

1. a) Explain the need to demultiplex the bus AD_0-AD_7 in 8085 microprocessor. (08)

   b) Explain briefly different type of buses used in microprocessor. (08)

Unit - II

2. a) Explain the following instructions of 8085 microprocessor- (4×2=8)

   i) CMP

   ii) XCHG

   iii) LDAX

   iv) STAXB

   b) Explain in detail about subroutine and their usefulness in 8085 microprocessor.

(08)

(OR)

2. a) Define opcode and operand. Specify the opcode and operand in the instruction (MOV H,L). (08)

   b) Write an assembly language program to find 1's and 2's complement of 16 Bit number. (08)

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Unit - III

3. a) Explain the term machine cycle, T-state and Instruction cycle. **(08)**

   b) Explain timing Diagram of 2-Byte instruction (MVI A, 32H). **(08)**

(OR)

3. Explain the 16 Bit data operation and arithmetic instruction. **(16)**

Unit - IV

4. a) Distinguish Between software and hardware interrupts. Draw the diagram of interrupt structure of 8085 MPU. **(10)**

   b) Explain the instruction RIM and SIM. Illustrate how to use them for 8085 MPU. **(06)**

(OR)

4. a) What do you mean by vectored and non-vectored interrupt. **(04)**

   b) Differentiate between maskable and non-maskable interrupts. Write an instruction to mask RST 7.5 and RST 6.5 interrupt simultaneously. **(12)**

Unit - V

5. Explain programmable peripheral devices, along with the PIN and block diagram. **(16)**

(OR)

5. Write short note on the following: **(2×8=16)**

   a) DMA controller

   b) Interval timer.