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4E 4160**4E 4160****B.Tech. IV Semester (Main/Back) Examination, June/July - 2015****Computer Science and Engineering****4CS1 A Microprocessors and Interfaces****Common with IT****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. a) Draw the architecture diagram of 8085 microprocessor and explain functions of various registers (8)
- b) Explain the following pins in relations to 8085 microprocessor (8)
 - i) ALE
 - ii) READY
 - iii) S_1 and S_0
 - iv) IO/\overline{M}

OR

1. a) Explain the address BUS, data BUS and control BUS of 8085 microprocessor. Also draw the flag register. (8)
- b) Explain the need to demultiplex the bus AD_0-AD_7 (8)

Unit - II

2. a) What is assembly language? Also explain its advantages and disadvantages.
b) Draw and explain the timing diagram for the instruction MVIM, 7AH (8+8)

OR

2. a) What are peripheral mapped I/O memory and memory mapped I/O? Differentiate b/w them. (8)
b) Write the uses of buffers, decoders, encoders and D-flip/flop in Microprocessor? (8)

Unit - III

3. a) Write a program to sort the 10 data element in descending order assume that the data are stored at 4000H to 5000H (8)
b) Explain the addressing modes for 8085 microprocessor by giving examples of each (8)

OR

3. a) Write a program to transfer a block of 10 data elements from memory location 5000H to 6000H (8)
b) Explain the following Instructions:- (8)
i) CMA
ii) CMP
iii) LDAX
iv) LXI
v) XCHG
vi) IN

Unit - IV

4. a) Draw and explain the block diagram of 8255 PPI (8)
b) Draw and explain diagram of 8253 (8)

OR

4. a) Draw and explain the pin diagram of 8255 PPI? Explain all of its modes? (8)
b) Draw and explain the block diagram of 8279 keyboard/display interface (8)

Unit - V

5. a) Draw the internal Block diagram of 8251 USART and explain its initialization process (8)
b) What is the difference between microprocessor and microcontroller (8)

OR

5. a) Compare RS-422A and RS-423A serial data standards (8)
b) Briefly describe the communication standards RS-232 C and IEEE 488 by showing configurations (8)

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