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BE DEGREE EXAMINATIONS APRIL/MAY 2011

Fifth Semester

Electrical and Electronics Engineering (R 2004)

EE 372 Microprocessors and Microcontroller

Answer ALL Questions

Max marks:100

Time: 3 Hrs

Part-A (10x2=20)

1. What is the data bus width of the 8085 microprocessor?
2. How many memory locations can be addressed by a microprocessor with 14 address lines?
3. Why is the data bus bidirectional?
4. When and where is the Ready signal used?
5. Name the registers available in the 8255.
6. Write the control word format for the I/O mode of the 8255.
7. Name the various schemes of data transfer.
8. Which port of the 8051 is used as address/data bus?
9. What is the function of segment override prefix? Give two examples.
10. What are the different uses of stack in a microprocessor?

PART B-(5X16=80marks)

11. a) i) Draw and explain the timing diagrams for the instructions CALL 2000H with appropriate control and status signals. (8)
ii) Explain the various timing parameters involved in read and write timings of a typical RAM. (8)
12. a) i) What is meant by 'priority of interrupts'? Explain the operation of software and hardware interrupt. (8)

- ii) Explain interrupt-driven I/O technique. How does the 8085 respond to the INTR interrupt? (8)

[OR]

- b) i) Explain in detail, the DMA method of data transfer. (8)
ii) Write an assemble language program to find the biggest and smallest in an array of given numbers. (8)
13. a) With neat sketches, explain the interfacing of microprocessor with Seven segment display. (16)

[OR]

- b) (i) Explain the 8255 Programmable Peripheral Interface. (8+8)
(ii) Write an ALP to generate a square wave using the 8255. (8)
14. a) Describe in detail the internal architecture and its various functional modes of 8051 Microcontroller. (16)

[OR]

- b) Explain the different modes of operation of 8051 timer. (16)
15. a) Explain how to interface a stepper motor with 8051 with necessary sketches. (16)

[OR]

- b) Explain in detail, the algorithm and programming aspects of closed loop control of servo motor with Microcontroller with neat sketches. (16)
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