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C 3256

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2008.

Sixth Semester

(Regulation 2004)

Electrical and Electronics Engineering

EC 1362 — MICROPROCESSOR AND MICROCONTROLLER

(Common to B.E. (Part-Time) Fifth Semester Regulation 2005)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the important control signals in 8085 Microprocessor?
2. What are the different data transfer schemes?
3. What is an assembler directive?
4. Write the Machine control instructions of 8085 Microprocessor.
5. Write the format of control word for 8255 PPI.
6. Draw the basic block diagram of ADC interfacing with 8085.
7. Write the memory capacity of Microcontroller 8051.
8. Name the interrupts available in Microcontroller 8051.
9. Write the I/O related instructions in Microcontroller 8051.
10. Write the sequence of bit pattern for a four phase stepper motor in half stepping mode of control.

PART B — (5 × 16 = 80 marks)

11. (a) With neat functional block diagram, explain the architecture of 8085 microprocessor. (16)

Or

- (b) (i) With necessary diagrams, explain the different data transfer schemes in 8085. (10)
(ii) Draw the timing diagram for the instruction MVI A, 02. (6)

12. (a) Explain the instruction set of 8085 with examples. (16)

Or

- (b) (i) Write 8085 Assembly language program to perform the following, $a^2 + b^2$, where a and b are 8 bit binary numbers. Explain with algorithm and flowchart. (10)
(ii) Write a program to count the number of times the data 02 p is present in a set of 20 numbers. (6)

13. (a) With neat block diagram, explain the architecture of 8259 PIC. (16)

Or

- (b) With necessary diagrams explain the different modes of operation of 8253 Timer/Counter. (16)

14. (a) Explain the different addressing modes of 8051 Microcontroller with examples. (16)

Or

- (b) Explain the following functional units of Microcontroller 8051
(i) I/O Ports
(ii) Serial Communication. (16)

15. (a) Explain the LCD display interfacing with Microcontroller 8051. (16)

Or

- (b) Explain the Microcontroller 8051 based closed loop control of Servo motor. (16)