Total No. of Questions : 10] [Total No. of Printed Pages : 3

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601

B. E. (Sixth Semester) EXAMINATION, June, 2009

(Common for CS, EC, EE, EI & IT Engg.)

MICROPROCESSOR AND INTERFACING

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt any *one* question from each Unit. Total *five* questions are to be attempted. All questions carry equal marks.

Unit – I

1. (a) What are the different segments of 8086 ? Describe the organization and functionality of each segment in memory.

   (b) Write a program in 8086 assembly language to count the number in positive and negative number in a given series of numbers.

Or

2. (a) Give in detail, evolution of advanced microprocessors.

   (b) Explain various addressing modes of 8086 in detail. Also give suitable examples.

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Unit – II

3. (a) Discuss the operation of 8155 in timer mode and I/O mode.

   (b) Draw a hardware design for interfacing a seven segment LED display, illustrating the segment drives. Also explain how interfacing is done.

Or

4. (a) Explain different operating modes of 8255.

   (b) Explain the block diagram and operation of programmable keyboard/display interface.

Unit – III

5. (a) Describe the importance of Direct memory access (DMA scheme). Draw the block diagram and explain the operation of 8257 DMA controller.

   (b) Discuss how 8253 is used :

   (i) to generate delay

   (ii) to generate square wave

Or

6. (a) Explain the block diagram and function of each block of 8251 USART.

   (b) Explain the function of the 8259 A interrupt controller and its operation in fully nested mode.

Unit – IV

7. (a) What is the need of modem ? How modem is connected to a computer ? Explain.

   (b) Explain in detail various bus standards and compare them.

Or

8. (a) Which RS-232C signals are used in synchronous transmission ? Which of these signals are generated by the DTE and DCE ?

   (b) What are the main transmit and receive functional blocks of a modem ? Explain the function of each unit.

Unit – V

9. (a) What are the functions of timers in microcontroller ?

   (b) Explain various addressing modes of 8051.

Or

10. (a) Describe and explain the architecture of 8051 microcontroller.

    (b) Give an overview of 8051 instruction set.