D 26889 (Pages : 2) Name.....

Reg. No.....

SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, DECEMBER 2006

EE 2K 601 / PTEE 2K 501 MICROPROCESSORS AND MICROCONTROLLERS

(New Scheme)

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions.*

1. (a) List the flag bits of 8086 and explain the use of each one.

(b) Name the hardware interrupt pins of 8085 and its software interrupt instructions and explain.

(c) Explain the BSR mode of operation of 8255 PPI chip.

(d) With the help of simple diagram, explain the DMA mode of data transfer.

(e) Explain how physical address is formed in 80386 in its real mode of operation.

(f) What are the different types of descriptor tables and descriptors of 80386 ?

(g) Explain the function of the following instructions of 8051 and specify the addressing modes used in each one :—

(i) CJNE, A # dat, rel

(ii) DJNZ R_1, real

(iii) SWAP A.

(h) List the alternate functions defined for port-3 pins of 8051.

(8 × 5 = 40 marks)

2. (a) Draw the architecture of 8086 in block diagram form and explain.

Or

(b) With the help of diagram, explain how the INTR pin of 8085 can be used by an external device to interrupt 8085, also explain how it respond to the interrupt request.

(15 marks)

3. (a) Explain how 8251 programmable communication chip can be interfaced to a microprocessor to achieve serial data transfer. Also explain the operation of the circuit.

Or

(b) Draw the internal architecture of 8257 DMA controller in block diagram form and explain the function of each block.

(15 marks)

Turn over

4. (a) Discuss about the protected mode of addressing of 80386 (without paging) with the help of diagram.

Or

(b) Explain the branch prediction logic and the super scalar architecture of Pentium processor.

(15 marks)

5. (a) Write an assembly language program using 8051 instructions to add the contents of memory locations 50*h* and 5F*h* and save the sum in memory locations 70*h* and 7*h*. Draw the flowchart also.

Or

(b) List and explain the branch group instructions of 8051.

(15 marks)

[4 × 15 = 60 marks]