(Please write your Exam Roll No.)

END TERM EXAMINATION

SIXTH SEMESTER [B.TECH./M.TECH.] MAY-JUNE-2013

Subject: Microprocessor

Paper Code: IT302

Maximum Marks :60

Time : 3 Hours

Note: Attempt five questions including Q.no.1 which is compulsory.
Select one question from each unit.

1   a) Write two features of Pentium Microprocessor not present in 80486. **(2 marks)**

b) Describe the effect that a control word of 10010000 sent to 8254 will have**(2 marks)**

c) Write 8086 instructions to set the trap flag.**(2 marks)**

d)Differentiate between RET and IRET instructions **(2 marks)**

e)Differentiate between carry and overflow flags.**(2 marks)**

f)What logic levels would you find on BHE and A0 when an 8086 is writing a byte to address 04274H? When it is writing a word to 04274H?(2 marks)

g) What is the purpose of ALE signal on 8086?(2 marks)

h) You are required to transfer data bytes to and from a floppy disk controller interfaced to 8086 via 8255. Which mode of operation of 8255 you will use and why? **(2 marks)**

i) Which interrupt has higher priority DIVIDE_BY_ZERO or NMI and why?**(2 marks)**

j) Differentiate between memory mapped and isolated input –output**(2 Marks)**

UNIT-I

2. Compare the features of Pentium II ,Pentium III and Pentium IV Processors **(10 marks)**

Or

3. Compare Microprocessors and Microcontrollers with respect to their architecture and specific applications   **(10 marks)**

UNIT –II

4. a) Explain the register organization of 8086. What is the function of instruction queue in the Bus Interface Unit of 8086? **(5 marks)**

b) With respect to 8086 explain the following signals **(5 marks)**

i)   ALE ii) HOLD and HLDA iii) DT/R' iv) DEN v) INTR

Or

5. a) Explain the following terms with respect to 8086

P.T.O.

i) Physical address ii) Offset address iii) Segment Address iv) Segment override Prefix v) Default Segment **(5 marks)**

b) Draw the maximum mode time diagram of 8086 for memory write operation. **(5 marks)**

UNIT-III

6 a) What are Assembler directives ? Explain the following assembler directives

i)PTR ii) OFFSET iii)EVEN iii) PUBLIC iv) ASSUME **(5 marks)**

b) Write an 8086 program which scans a string of 80 characters looking for all occurrences character 'L' . If 'L' is found , output the number of times L is found otherwise print the message' not found'.**(5 marks)**

Or

7 a) The binary code of an instruction is 10001010 00010101. Write the corresponding assembly language instruction. What are the addressing modes used in this instruction? **(3 marks)**

b) What do you understand by REP prefix used with string instructions? **(2 marks)**

c) Write an assembly language procedure BCD_TO_BIN to convert a two-digit BCD number into Binary. The number should be passed as a parameter on stack.**(5 marks)**

Unit IV

8a) Explain the architecture of 8279 Keyboard and display controller. Show the command words to initialize 8279 as 8- character display, rightt-entry encoded scan Key-board, N-key rollover, 1-MHz input clock divided to 100 KHz and FFH as blanking character. **(5 marks)**

b) What is the difference between a tightly and loosely coupled multiprocessor configurations ?   Explain how inter-processor communication is handled in loosely coupled systems.**(5 marks)**

Or

9) Design a system to interface Analog to digital convertor 0808 with 8086 using 8255 ports. Use port A of 8255 for transferring digital data output of ADC to the CPU and port C for control signals. Assume that an analog input is present at I/P2 of the ADC and a clock input of suitable frequency is available for ADC. **(10 marks)**

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