(Please write your Exam Roll No.)

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# END TERM EXAMINATION

SIXTH SEMESTER [B.TECH/M.TECH] MAY-2010

Paper Code: IT 302
Paper ID: 15302
Subject: Microprocessors
(Batch: 2006 onwards)
Time: 3 Hours
Maximum Marks: 60

*Note: Question No 1 is compulsory. Attempt one question from each unit.*

## PART (A)

Q1. (a)(i) Give an example of one address Microprocessor. **(1x10=10)**
(ii) Which stack is used in 8085?
(iii) After power on at what absolute address 8086 starts execution.
(iv) What is called "Scratch pad of Pentium microprocessor".
(v) Which mode of 8255 is suitable for interfacing parallel printer and keyboard?
(vi) Which mode of 8254 is suitable for generating square wave?
(vii) How many keys and characters displays is possible in 8279.
(viii) 8086 microprocessor is interfaced to 8254. What is the maximum number by which the clock frequency on one of the times is divided?
(ix) How many bit combinations are there in a word?
(x) What is the function of "NOP"

(b) (i) What are the flags in 8086? **(2x5=10)**
(ii) Why crystal is preferred clock source?
(iii) What is the purpose for which the signal "Ready" is available in 8085 and 8086?
(iv) What is the operation performed by instruction "CBW" of 8086. Give an example for its use.
(v) What is the use of 8251?

## UNIT – I

Q2. (a) What is PSW in 8085? Explain the contents of PSW **(5)**
(b) How "BIU" of 8086 generate 20 bit address to access external memory. **(5)**

Q3. (a) Describe flag register of 8086? **(5)**
(b) Describe the pipelined architecture of 8086. **(2.5)**
(c) Discuss the segment memory concept used in 8086. **(2.5)**

## UNIT – II

Q.3 (a) What is the purpose of "ALE", "$\overline{BHE}$", DT/$\overline{R}$ and $\overline{DEN}$ pins of 8086? Show their timing in the system bus cycle of 8086? **(10)**

(b) Write a short note on various addressing modes used in 8086? **(10)**

## UNIT – III

Q.4 (a) Give the instruction sequence that compares the first 10 bytes beginning at STRG1 with the first ten bytes beginning at STRG2 and branches to MATCH if they are equal, otherwise continues in sequence? **(10)**

(b) Write an assembly language program in 8086 to find how many times 80H appear in an array of 100 bytes of data starting at ARR1. **(10)**

## UNIT – IV

Q.5 (a) Describe tightly coupled and loosely coupled systems with examples **(10)**

(b) Discuss the mode instruction format of 8251 for synchronous and asynchronous mode of operation **(10)**

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