

## ***B. Tech Degree V Semester Examination November 2012***

### **CS/EB 506 MICROPROCESSOR BASED SYSTEM DESIGN**

(2006 Scheme)

Time : 3 Hours

Maximum Marks : 100

#### **PART A**

(Answer *ALL* questions)

(8 x 5 = 40)

- I. (a) What is an assembler directive? Explain any four assembler directives.  
(b) What are registers? Explain the purpose of each segment register in 8086 microprocessor.  
(c) Compare 8086 with 8088 microprocessor.  
(d) With the help of a neat diagram, explain bus buffering and latching in 8086.  
(e) Explain the salient features of Pentium IV microprocessor.  
(f) Explain real addressing mode of 80386 microprocessor.  
(g) What is a microcontroller? How it differs from a microprocessor?  
(h) Explain the addressing modes of 8051.

#### **PART B**

(4 x 15 = 60)

- II. Explain the architecture of 8086 with a neat diagram. (15)

#### **OR**

- III. (a) Write an assembly language program to reverse a string and print the result. (7)  
(b) Write the memory address space organization of 8086. (8)

- IV. Explain the pin configuration of 8086 in detail. (15)

#### **OR**

- V. With the help of a neat diagram, explain how to interface 8086 with 8259. (15)

- VI. (a) Explain the architecture of 80386 in detail. (10)

- (b) What do you mean by dual core architecture? (5)

#### **OR**

- VII. Describe segmentation and paging mechanism of 80386. (15)

- VIII. Explain the architecture of 8051 in detail. (15)

#### **OR**

- IX. Explain how to interface 8051 with a temperature sensor and an actuator. (15)

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