B. Tech Degree V Semester Examination November 2010

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)	Write the usage of instruction queue available in the 8086 processor.	
	(b)	What is meant by Segmentation?	
	(c)	What is meant by Bus buffering?	
	(d)	Describe various internal registers and their usage of 8259.	
	(e)	Compare the RISC and CISC architecture.	
	(f)	What are the differences between Pentium I family and Pentium II?	
	(g)	Write a note on register banks in the 8051.	
	(h)	Explain any 3 bit manipulation instructions available in MCS-51.	

PART B

(4 x 15 = 60)

II.	(a)	Explain various Addressing modes available in 8086. Also describe how we can calculate the Effective Address in each addressing mode.	(9)
	(b)	Write the usage of signals LOCK, BHE and READY.	(6)
		OR	
III.		Write an Assembly Language program to find the factorial of a single digit number, display the factorial in BCD on the screen.	(15)
IV.	(a)	Explain the minimum mode and maximum mode configurations of processor 8086 with the help of diagrams.	(10)
	(b)	Describe the concept of interfacing I/O ports.	(5)
		OR	
V.	(a)	Explain the concept of Dynamic RAM interfacing with the help of an example.	(10)
	(b)	Explain various modes of DMA operations in detail.	(5)
VI.	(a)	Draw and explain the internal structure of Pentium IV.	(10)
	(b)	What differences exist in the flags of the 80486 when compared to the 80386?	(5)
		OR	
VII.	(a)	Explain the real and protected modes of operations of 80286 microprocessor.	(10)
	(b)	What is the difference between a segment descriptor and a system descriptor?	(5)
VIII.	(a)	Explain with necessary diagram, the memory organization of 8051.	(10)
	(b)	Describe various addressing modes of 8051 with example.	(5)
		OR	
IX.	(a)	Explain the unique features of microcontrollers.	(5)
	(b)	Describe the concept of interfacing a sensor using a microcontroller.	(10)

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