Total No of Questions: [12] *SEAT NO. :*

[Total No. of Pages :2]

T.E. 2008 (Computer engineering)

Microprocessor and Microcontroller

Time: 3 Hours *Max. Marks : 100*

Instructions to the candidates:

1) ***Answers to the two sections should be written in separate answer books.***
2) ***Answer question no. 1 or 2, 3 or 4, 5 or 6 from section I and Q. No. 7 or 8, 9 or 10, 11 or 12 from section II***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right side indicate full marks.***
5) ***Use of Calculator is allowed.***
6) ***Assume Suitable data if necessary***

SECTION I

Q1)	a)	Draw and explain architecture of Pentium	[10]
	b)	Explain following pins of Pentium 1. DP7-DP0 2.CPUTYP 3.HLDA	[6]
		OR	
Q2)	a)	Explain branch prediction.	[8]
	b)	Explain floating point unit?	[8]
Q3)	a)	Explain non pipelined read and pipelined read cycle.	[10]
	b)	Explain addressing modes of Pentium processor.	[6]
		OR	
Q.4)	a)	Explain flag register of Pentium in detail	[8]
	b)	Explain following instructions 1. CMPS 2.MUL 3. SAR 4.XLAT	[8]
Q 5)	a)	How logical address is converted into physical address.	[8]
	b)	Explain CALL GATEW mechanism in Pentium processor	[6]
	c)	Explain Debug registers of Pentium	[4]
		OR	
Q 6)	a)	How Pentium protects the segmented accesses. Explain file different checks	[10]
	b)	Calculate end address of the segment for G=0 and G=1	[8]

		Assume Base address= 00005000H Limit= 0000AH	
		SECTION II	
Q 7)	a)	Explain TSS descriptor and task register of Pentium.	[8]
	b)	Explain entering and leaving virtual 8086 mode.	[10]
		OR	
Q 8)	a)	Explain the ways of task switching and steps in task switching.	[8]
	b)	Explain I/O permission bitmap.	[10]
Q 9)	a)	Draw and explain internal and external RAM organization of 8051	[12]
	b)	Explain the function of following pins 1. T1 2. T0	[4]
		OR	
Q 10)	a)	Explain port 0 to port 3 of 8051	[8]
	b)	Explain following instructions 1. pop 2.ANL 3. MUL 4. LCALL	[8]
Q 11)	a)	Write features of 8096 microcontroller.	[4]
	b)	Explain TCON in 8051 microcontroller.	[8]
	c)	Explain mode3 of timer operation in 8051.	[4]
		OR	
Q 12)	a)	a. Explain memory map of 8096 microcontroller.	[4]
	b)	Explain IE and IP of 8051 microcontroller.	[8]
	c)	Explain PCON of serial port of 8051 microcontroller.	[4]