B.E. Computer Technology Fourth Semester CT403 - Advanced Microprocessor

P. P Tim	ages : e : Thi	the Hours $* 1 2 5 6 *$			GUG/W/18/1597 Max. Marks : 80	
	Note	s: 1. Al 2. Ill	l questions carry marks as ustrate your answers when	s indicate rever nec	d. essary with the help of neat	sketches.
1.	a)	Explain memory segmentation and its advantages in 8086 based systems.				8
	b)	With a help of internal block diagram explain the architecture of 8086.				
2.	a)	Explain the addressing modes of 8086 with the help of examples.				
	b)	Explain the function of the following pins of 8086 : $\overline{R_{\theta}} / \overline{\text{GTo}}$, $\overline{\text{TEST}}$, INTR, & $\overline{\text{RD}}$.				
3.	a)	Explain the control word formation for Bit Set / Reset mode and I/O mode of 8255.				
	b)	Write a note on the different modes of operation of the 8253 programmable times.				
4.	a)	OR Design a programmable time using 8253 and 8086. Interface 8253 at an address 0040H for counter 0 and write a program to generate a square wave period of 1ms. The 8086 and 8253 run at 6 MHz and 1.5 MHz respectively.				
	b)	Interface DAC AD 7523 with an 8086 CPU running at 8 MHz and write an assembly language program to generate a sawtooth waveform of period 1 ms with Vmax 5V.				
5.	a)	Briefly describe the conditions which cause the 8086 to perform each of the following interrupts. Type 0, Type 1, Type 2, Type 3 and Type 4.				
	b)	What are software interrupts. How 8086 responds to software interrupt.				
6.	a)	Draw a neat block diagram of 8259 PIC. Explain master – slave configuration of 8259.				
	b)	Explain the following modes of 8259 priority Interrupt controller :				
		i) Fully I	Nested Mode	ii)	Rotating Priority	
		iii) Specia	al fully Nested mode	iv)	Special Mask Mode	
7.	a)	Explain Current Address Register, Current word register, Base Address, Base word count Register and request register of 8237 DMA controller.				
	b)	What is the memory tra	need of DMA in microprinsfer is handled in 8237.	cocessor a	applications. Explain how mo	emory to 8
8.	a)	OR What are the different operations carried out in maximum mode of 8086.				
	b)	Explain the given instructions of 8087 : FDIV, FPREM, FSQRT, FLD.				
9.	-)	Frankin ede				Q
	a)	Describe the erobitecture of 8051 with post diagram				
	D)	OR				
10.	a)	Explain the operations of mode -1 , mode -2 and counter function of timer.				
	b)	Explain how stack is implemented in 8051 microcontroller.				
