## B.E. Computer Science & Engineering Sixth Semester CSE602 – Microprocessor & Microcontrollers

P. P Tim	Pages : ne : Thi	2 ree Hours $* 1 3 1 7 *$	<b>GUG/W/18/1673</b> Max. Marks : 80	
	Note	<ul> <li>es: 1. All questions carry marks as indicated.</li> <li>2. Assume suitable data wherever necessary.</li> <li>3. Illustrate your answers wherever necessary with the help of near</li> </ul>	nt sketches.	
1.	a)	Draw & explain the internal architecture of 8086. Also discuss in brief the instruction queue.	he importance of <b>8</b>	
	b)	What is addressing mode? Explain the various addressing modes of 808 example each.	6. With one <b>8</b>	
		OR		
2.	a)	Explain the physical address generation in 8086 with example.	8	
	b)	Explain the advantage of segmentation of memory in 8086 microprocess	sor. <b>8</b>	
3.	a)	What is the difference between Software & Hardware interrupt? Also exinterrupt in brief.	xplain rested 8	
	b)	Write a program to arrange 10 bytes in ascending order.	8	
		OR		
4.	a)	Show the interface of 8-bit DAC with $\mu p$ 8086 and write a program to g wave at output of DAC as shown below.	enerate triangular 8	
	b)	Interface 32 KB EPROM and 16 KB RAM with 8086 in minimum modestarting address.	e. Assume suitable 8	
5.	a)	Draw the block diagram of Intel 8254 and explain CWR format.	8	
	b)	Write an ALP to generate a pulse at every 50 µsec. from counter zero (C Assume 2 MHz input clock and suitable address to write a program.	Co) of 8254. 8	
		<b>OD</b>		

## OR

- **6.** a) Explain all ICW's and OCW's of 8259.
  - b) Draw the schematic of 8279 keyboard display interfaced with 8086 μp with 8x8 keyboard 8 matrix and 4 numbers of 7 segment displays.

8

7.	a)	Describe the IO ports of 8051 $\mu$ C with the specialty of port 3 for its alternative function.	
	b)	Explain the operating modes of T/C of 8051 microcontroller.	8
		OR	
8.	a)	Explain memory organization of 8051 $\mu$ C. Also discuss how will you select internal memory bank.	8
	b)	Enlist various SFR of 8051 $\mu$ C. Explain the power saving option of 8051 micro-controller.	8
9.	a) Explain how data is accessed using MOVX and MOVC from external data memory.		8
	b)	Write a program to clear 10 RAM locations starting at RAM address 1000H.	8
		OR	
10.	a)	Write a program to continuously generate a square wave of 2 kHz frequency on pin P1.5 using timer 1. Assume the crystal oscillator frequency to be 12 MHz.	8
	b)	What are the different serial data transmission modes? Explain these modes in detail.	8