B.E.(with Credits)-Regular-Semester 2012 - Computer Science and Engineering Sem VI
CSE602 - Microprocessor & Microcontroller

P. Pages : 2

Time : Three Hours

|||||||||||||||||||||
3527

Max. Marks : 80

_____

Notes : 1. All questions carry equal marks.
2. Illustrate your answers wherever necessary with the help of neat sketches.

1. a) Define pipelining ? Discuss the function of instruction queue in 8086. **8**

b) List the various addressing modes present in 8086. **8**

OR

2. a) Explain in detail the two modes of operations present in 8086 μp. **8**

b) What happens to the status flags as the sequence of instructions that follows is executed in 8086 micro-processor architecture.
Assume that flags ZF, SF, CF, AF, OF & PF are initially reset.
MOV AX, 1234H
MOV BX, OABCDH
CMP AX, BX **8**

3. a) Explain the interrupt mechanism, types and priority of 8086 microprocessor. **8**

b) Explain the shift instructions and rotate instructions in 8086. Give example for each. **8**

OR

4. a) Draw a complete interfacing diagram for interfacing an 8 bit ADC to a 8086. **8**

b) Write an assembly language program to generate triangular waveform using DAC. **8**

5. a) Explain the 8253 PIT control word format and set up the 8253 as a square wave generator with 1ms period if the input frequency to the 8253 is 1MHz. **8**

b) Explain the ICW's of 8259 PIC. **8**

OR

6. a) Write a program to initialise and operate 8279 for the following specifications. The addresses of 8279 are A2H and B2H.
   i) 12 digit display to display roll numbers from 1 to 12.
   ii) Display scan time 10.24 msec and external clock is 3MHz.
   iii) Clear code is FFH. **8**

b) Explain the following: **8**
   i) Scanned sensor matrix mode   ii) Special Error mode.

7. a) Discuss in detail about memory organization and the explanation of memory in 8051 with a neat diagram. **8**

b) List the addressing modes of 8051μc. **8**

OR

8. a) How does 8051μc differentiate internal and external memory ? **8**

b) Discuss the peripheral interface of μc 8051. **8**

9. a) Explain the I/O port structure of 8051 microcontroller in detail. **8**

b) How many interrupts are there in 8051? What are they ? Discuss about external hardware interrupt in 8051. **8**

OR

10. a) What is the use of SFR in 8051 ? List all the SFRs involved in 8051. **8**

b) Briefly discuss about the serial communication in 8051 microcontroller. **8**

****