VIT
Vellore Institute of Technology

Final Assessment Test – November 2019

Course: CSE2006 - Microprocessor and Interfacing
Class NBR(s): 0940/0955/1120/1133   Slot: C1
Time: Three Hours   Max. Marks: **100**

KEEPING MOBILE PHONE/SMART WATCH, EVEN IN 'OFF' POSITION, IS EXAM MALPRACTICE

Answer any **TEN** Questions
(10 X 10 = 100 Marks)

1. With the help of neat diagram explain the architecture of 8086 processor in detail and discuss its flag register.

2. Write an 8086 assembly language program to sort an array of eight bytes in ascending order and descending order.

3. a) Explain the signals ALE, RESET, INTR, CLOCK and HOLD.   [5]

   b) Describe the addressing modes of the followings.   [5]
      i)   MUL BX
      ii)   MOV AL, [BX]
      iii) MOV DL, ES:6500h[SI]
      iv)   MOV AL, [DI][BX]

4. Draw and explain the architecture of 8259A programmable interrupt controller in detail and explain about ICW1

5. Interface an 8086 with 8255 chip to work as an I/O port. Initialize port A as input port, Port B as output port and Port C as O/P port. Port A address should be 0700H. Write an ALP to sense switch positions SW0–SW7 connected at port A. The sensed pattern is to be displayed on port B, to which 8 LED's are connected, while port C lower displays number of on switches out of the total eight switches ?

6. a) List various 8087 instructions for transcendental.   [5]

   b) Write an 8087 ALP to calculate the area of circle.   [5]

7. Interface an 8-bit A/D converter with a 16-bit microprocessor and verify the digital output for analog signal.

8. a) Explain any five assembler directives with necessary example.   [5]

   b) Write in detail about the standard programming structures of 8086 assembly language programming with an example for each.   [5]

9. Draw and explain about multicore processor CPU chip.

10. Draw the architecture of any one microcontroller and discuss the various on-chip peripherals and their need.

11. Discuss in detail about smart irrigation system and choose the necessary components for developing it.

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