Final Assessment Test (FAT) – May 2017

VIT UNIVERSITY (Estd. u/s 3 of UGC Act 1956)

Course : **CSE2006 - Microprocessor and Interfacing**

Class NBR(s): **2146 / 2147 / 2151 / 2153 / 2167 / 2169 / 2177**

Slot: **A1**

Time: **Three Hours**

Max. Marks: **100**

PART – A (8 X 5 = 40 Marks)
Answer ALL Questions

1. In your assumption justify the need of an addressing mode? Find out the addressing modes of the followings.
   a) ADD BX
   b) MOV DL, [BX]
   c) MOV DL, ES:6500h[SI]
   d) MOV DL, [DI][BX]
2. Write an ALP to find leading and trailing HEX number in an array using 8086 instruction set.
3. Differentiate hardware and software interrupts? Explain any two interrupts for each type.
4. Write the mode word format for 8253 programmable interval timer.
5. Briefly explain about digital data transmission using modem with necessary diagram.
6. Draw and explain the control word register of 8087 coprocessor.
7. Draw and explain any one application of Arduino board using GPIO.
8. Mention the features of ARM controller.

PART – B (6 X 10 = 60 Marks)
Answer any SIX Questions

9. Draw and explain about the architecture of 8086 microprocessor in detail.
10. Write an ALP to arrange given series of hexadecimal bytes in an ascending order.
11. a) Write in detail about the standard programming structures of 8086 ALP with an example for each. **[5]**
    b) What is meant by an interrupt? List out the types of interrupt with example. **[5]**
12. Discuss in detail the need for programmable interrupt controller 8259 with necessary block diagram and initialization command words.
13. Explain the interfacing of 8251A with 8086 processor to transmit 100 bytes of data in asynchronous mode from the starting location 2000:5000H. Assume the followings: Stop bits = 2 bits, Character length = 8 bits, Frequency = 160 KHz, Baud rate = 10K. Write the corresponding ALP with comments.
14. a) List various 8087 instructions for data transfer.
    b) Write an 8086/8087 procedure to calculate the area of circle. Assume that the integer radius is passed in register AH and return the area (rounded to the nearest integer) in BX:AX
15. Draw the basic architecture of microcontroller and discuss the various on-chip peripherals and their need.
16. Draw and explain about multicore processor CPU chip.

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