Total No. of Questions :10] *[Total No. of Printed Pages :4*

Roll No .....

CS - 601

B.E. VI Semester

Examination, December 2012

Microprocessor and Interfacing

Time : Three Hours

Maximum Marks : 100 *Minimum Pass Marks :35*

Note: Do any Five (One from each Unit)
All questions carry equal marks.

UNIT I

1. (a) How many address line does an 8086 have? and How many memory address does this number of address lines allow the 8086 to access directly?

   (b) At any given time 8086 work with four segment in this address space. How many bytes are contained in each regiment?

OR

2. (a) What is main difference between the 8086 and the 8088? also describe the function of the 8086 queue with How does the queue speed up processing?

   (b) If the stack segment register contain 3000 H and the stack pointer register contains 8434H what is the physical address of the top of the stack?

UNIT II

3. a) Show the 8086 instruction or group of instructions which will.

   (i) initialize the stack segment register to 4000 H and the stack pointer register to 8000H.

   (ii) Call a near procedure named FIXIT

   (iii) Save BX and BP at the start of a procedure and restore them at the end of the procedure.

   (iv) Return from a procedure and automatically increment the stack pointer by 8.

   b) What is the purpose of the ALE signal in an 8086 system. also explain how is an 8086 entered into a WAIT state? At what point in a machine cycle does an 8086 enter a WAIT state?

OR

4. a) If you can find any errors in the following instruction or groups of instructions.

   (i) CNTDOWN : MOV BL, 72 H
   DEC BL
   JNZ CNTDOWN

   (ii) ADD CX, AL
   (iii) JMP BL
   (iv) JNZ [BX]
   State your answer

   b) If the 8086 execution unit calculates an effective address of 14A3H and DS contains 7000 H, what physical address will the BIU produce?

UNIT III

5. (a) Describe memory-mapped I/O and direct I/O give the main advantage and main disadvantage of each.

   (b) Describe intel 8051 vs 8096

OR

6. (a) Why co-processor like math coprocessor is useful in any system design?

   (b) What is the main difference between the 80387DX processor and the 80387 SX processor?

UNIT IV

7. (a) What is the main difference between VART and a VSART?

   (b) What other way besides polling does the 8251A provide for determining when a character can be sent to the device for transmission? Describe the additional hardware connections required for this method.

OR

8. (a) When connecting peripheral devices such as printer, terminals, etc., to a computer, why is it very important to connect the logic ground and the chassis ground together only at the computer?

   (b) Why must data be sent to a printer on a handshake basis? What mean by double handshake data transfer? Also explain why DMA data transfer faster than doing the same data transfer with program instruction.

UNIT V

9. (a) How does a cache controller keep track of which blocks from the main memory are present in cache?

   (b) Define term : (i) Magnetic Memory and EEPROM (ii) Real and Virtual Memory Buses.

OR

10 .When using a Hamming code error detection/correction scheme for DRAMs, how many encoding bits must be added to detect and correct a single-bit error in a 64-bit data word?

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