II B.Tech II Semester Examinations,April/May 2012
MICROPROCESSORS AND INTERFACING
Common to Information Technology, Computer Science And Engineering,
Computer Science And Systems Engineering

Time: 3 hours   Max Marks: 80
Answer any FIVE Questions
All Questions carry equal marks
⋆ ⋆ ⋆ ⋆ ⋆

1. Give the complete block schematic of an 8051 based system having following specifications:

   (a) 64 KB program memory

   (b) 64 KB data memory

   (c) Make use of 16 K x 8-bit memory chips and 74LS138 decoders.

   (d) Indicate clearly the address selected for the memory chips.   [4×4]

2. (a) Write the sequence of statements that declare the word named NWORD and the FAR label EXTMOD as being external and the variable LWORD and the label LOCMOD as being local and accessible by other source modules?

   (b) How could you use the TEST instruction (or a sequence of TEST instructions) to see if bits zero and four in the AL register are both set to one? How would the TEST instruction be used to see if either bit is set? How could the TEST instruction be used to see if neither bit is set?   [8+8]

3. (a) Draw the internal architecture of 8085. Explain each block.

   (b) What are the special functions of GPRs in 8086? And explain them.   [8+8]

4. Briefly explain the interfacing and programming of 8279.   [16]

5. (a) Describe the addressing modes of 8086.

   (b) Give sequence of instructions that pushes the offsets of X,Y and Z on to the stack.   [10+6]

6. (a) What are the advantages of using 8259?

   (b) Draw and explain the interfacing of cascaded 8259s with 8086.   [8+8]

7. (a) What do you mean by serial data transmission standards? Give their specifications.

   (b) A terminal is transmitting asynchronous serial data at 4800 baud. What is the bit time? Assuming 8 data bits, no parity bit, and 2 stop bits. How long does it take to transmit one character?   [8+8]

8. (a) Why are memory address decoders important?

   (b) Design a decoder CKt. Using the NAND gates, so that it selects the memory IC for address range 40000 H ... 407FFH.   [6+10]

R05

Set No. 2

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Code No: R05220504   **R05**   **Set No. 4**

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R05

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