Code No : 9A04602/R09

III B.Tech. II Semester Regular and Supplementary Examinations

Set-1

April/May - 2013

MICROPROCESSORS AND MICROCONTROLLERS

(Common to EEE, ECE, CSE, EIE, and E.Con.E)

Time: 3 Hours | Max. Marks: 70

Answer any FIVE Questions

All Questions carry Equal Marks

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1. (a) Why the lower order address bus is multiplexed with data bus? How they will be de-multiplexed?

   (b) Differentiate between maskable and non-maskable interrupts.

2. (a) Write an ALP in 8086 to check the number is prime or not.

   (b) Write an ALP in 8086 to convert un packed BCD to packed BCD.

3. (a) Draw the memory write machine cycle in minimum mode and explain the operation in each T state.

   (b) Draw and explain the memory write machine cycle in maximum mode.

4. (a) Explain how to interface a stepper motor with 4-step input sequence to 8086 based system with the help of hardware design. Write the instruction sequence to move the stepper motor 10 steps in clockwise and 12 steps in anti-clockwise direction.

   (b) Write in detail about stepper motor and actuators and their interface with 8086.

5. (a) What are the applications of 8251? Whether write operation is possible with status word & command word registers.

   (b) Distinguish between asynchronous and synchronous data transfer schemes.

6. (a) Draw the block diagram of 8253 and explain about each block in detail.

   (b) Explain about control word format and programming of 8253.

7. (a) Explain in brief about programming external hardware interrupts in 8051.

   (b) What are the steps involved in programming the 8051 to receive data serially?

8. (a) Explain the importance of each pin in MCS-96 microcontrollers.

   (b) Give a short note on 80196 micro controller of MCS-96 family.