Code No.: 9A04602/R09

Set-3

III B.Tech II Semester Regular and Supplementary Examinations

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) Discuss the various addressing modes of 8086. What are displacement, base and index? What is an effective address or offset?

   (b) What are the advantages of the instruction queue in 8086?

2. (a) Write an ALP to separate and count the numbers from positive, negative and zero numbers from a given set of 8 bit numbers.

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

3. (a) Explain in brief the need for DMA controller and its working in an 8086 based system.

   (b) Differentiate minimum and maximum mode of 8086.

4. (a) Draw the schematic diagram of 8255 PPI and explain different modes of operation of 8255 with example.

   (b) Draw the block diagram of 8255 and explain each block.

5. (a) What is parity error, over run error and frame error in 8251? What is hunt mode in 8251?

   (b) Explain about USB with necessary example and analysis.

6. (a) Explain the modes of operation of 8253 in detail.

   (b) Why do we prefer interrupt driven data transfer than programmed I/O transfer? Show the complete hardware design to resolve the multiple interrupts based on priority.

7. (a) What is assembly language program? What is the function of SWAP? What is debugging?

   (b) Write a program to subtract the contents of R1 of bank 0 from the contents of R0 of bank 2.

8. (a) Describe about versions and cores of ARM microcontrollers.

   (b) Give salient features about ARM microcontrollers.