R09

Code: 9A04602

B.Tech IV Year I Semester (R09) Regular & Supplementary Examinations December 2015

MICROPROCESSORS & MICROCONTROLLERS

(Mechatronics)

Time: 3 hours Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks
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1 (a) Elucidate Instruction set of 8086.
(b) Write short notes on general purpose registers of 8086.

2 (a) Write an ALP to generate the FIBONACCI series.
(b) Write an ALP in 8086 to find 1's complement of a 16 bit hexadecimal number.

3 Draw the block diagram of 8257 DMA controller and explain its operations.

4 Interface an 8-bit DAC to 8255 with an address map of 0804H to 0807H. The DAC provides output in the range of +5 V to –5 V. Write the instruction sequence for generating a square wave with a frequency of 1 kHz.

5 (a) Explain RS-232C to TTL interfacing.
(b) Give a sample program for serial data transfer.

6 Explain about control word format and programming of 8253.

7 Draw the schematic for interfacing a stepper motor with 8051 microcontroller and write 8051 ALP for changing speed and direction of motor.

8 (a) Explain the Instruction set of MCS-96 microcontroller with simple example.
(b) List applications of ARM cores.

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