

EC - 504
B.E. V Semester
Examination, December 2012
Microprocessors and Microcontroller

Time : Three Hours

Maximum Marks : 70/100

- Note :* 1. Attempt one question from each unit.
2. All questions carry equal marks.

Unit - I

1. a) Explain in detail the working of 8086 microprocessor in maximum and minimum mode.
b) Give the register structure of 8086 in detail.

OR

2. a) How many segment registers are there in 8086? Explain the use of each register. What is que? How que is implemented in 8086.
b) Explain the function of address bus and control bus. Describe the working of 8288 bus controller.

Unit - II

3. a) What are the various addressing modes of 8086? Explain with examples.
b) How instructions are classified in various instruction groups in 8086 ? Name some special address transfer instructions and explain their operation.

OR

4. a) Write a program in 8086 assembly language to find average of three numbers.

[2]

- b) What do you understand by interconnection topologies? Describe coprocessors 8087 NDP.

Unit - III

- 5. a) Explain BSR and I/O mode of operation of 8255.
- b) List and explain all the operating modes of 8253. Programmable interval timer.

OR

- 6. a) What is the function of status word format of 8251 USART. Also explain the command word format of 8251.
- b) Describe CRT controller 8275. Also name the different control signals used by CRT controller.

Unit - IV

- 7. a) ^{www.rgpvonline.in} What are the interrupts of 8086? Distinguish between maskable and non maskable interrupts.
- b) Explain DMA operation. Describe various modes of DMA transfer.

OR

- 8. a) What are the functional features of 8259? How interrupt priorities are managed in 8259.
- b) With the help of block diagram explain the working of DMA controller 8257.

Unit - V

- 9. a) Draw the block diagram and explain architecture of 8051 microcontroller.
- b) Describe various addressing modes of 8051.

OR

- 10. a) Draw the pin diagram of 8051 microcontroller and explain the function of each pin.
- b) Explain data types and subroutines. List various applications of 8051.
