



Reg. No. :

Name :

**Sixth Semester B.Tech. Degree Examination, May 2016
(2013 Scheme)**

13.603 : MICROPROCESSORS AND APPLICATIONS (E)

Time : 3 Hours

Max. Marks : 100

PART – A

Answer **all** questions.

1. Explain flags of 8085.
2. Write delay subroutine for 0.4 sec. Assume 3 MHz clock.
3. Differentiate between Instruction cycle, Machine cycle and T-state.
4. Explain memory segmentation in 8086.
5. What are the modes of operation of 8255 ? (5x4=20 Marks)



PART – B

Answer **any one full** question from **each** Module.

MODULE – I

6. a) Draw the architecture of 8085. Explain the function of program counter and stack pointer. 10
- b) An array contains ten numbers. Find the sum of even numbers. Assume 16-bit answer and store result in two consecutive memory locations. 10

OR

7. a) Explain different addressing modes of 8085 with example. 10
- b) Write program to rearrange an array of ten numbers in ascending order. 10



MODULE - II

8. a) Draw the timing diagram of instruction LDA 6200H. 8
 b) Draw the interrupt structure of 8085. Explain RIM instruction. 12

OR

9. a) Differentiate between programmed data transfer and interrupt driven data transfer schemes. 10
 b) Design memory systems to interface 2K ROM and 4K RAM using 2Kx8-bit memory chips. 10

MODULE - III

10. a) Explain minimum mode of operation of 8086. 10
 b) Explain different addressing modes of 8086 with examples. 10

OR

11. a) Explain the register organization of 8086. 10
 b) Write 8086 ALP to move 16 bytes of data starting from offset 0200H to 0300H in the segment 7000H. 10

MODULE - IV

12. a) Interface two 7-seg LEDs to Port A of 8255 and 8 switches to Port B. Write program to read switch positions and display at Port A. 10
 b) Explain with diagram how DAC can be interfaced with 8085. Write program to generate ramp signal. 10

OR

13. a) Explain how matrix keyboard can be interfaced with 8086. 10
 b) Draw the block diagram of 80486 and explain each block. 10