(Pages . 2) C – 2759

Reg. No. : .....

Name : .....

Sixth Semester B.Tech. Degree Examination, June 2017
(2013 Scheme)
13.603 : MICROPROCESSORS AND APPLICATIONS (E)

Time : 3 Hours Max. Marks : 100

PART – A

Answer **all** questions :

1. Explain how AD0-AD7 signals are de-multiplexed in 8085 microprocessor ?
2. List and explain the instructions for stack operations in 8085 processor.
3. What are the different data transfer schemes in 8085 processor ? Explain.
4. Explain the various flag registers in 8086 processor.
5. Explain how LED's are interfaced with 8085 processor. **(5×4=20 Marks)**

PART – B

Answer **any one full** question from **each** Module. **All** questions carry **equal** marks.

Module – I

6. a) List out the data transfer group of instructions of 8085 processor and explain with examples. **10**

   b) Write an assembly language program to find the smallest number from 100 numbers of 8 bit data stored in consecutive memory locations. **10**

   OR

7. a) Compare the following instructions :
      i) DCR H and DCX H
      ii) JC $data_{16}$ and CC $data_{16}$
      iii) XTHL and PCHL
      iv) RLC and RAL. **10**

   b) Write an assembly language program to calculate the sum of given 8 bit numbers stored in consecutive memory locations. **10**

P.T.O.

Module – II

8. a) Draw and explain the timing diagram for IN $data_8$. Clearly indicate the different machine cycles. **10**

   b) Explain the different data transfer schemes in 8085 processors. **10**

OR

9. a) Explain the hardware interrupt operation of 8085 through INTR in detail, indicating how the interrupting system guides the processor to the appropriate service routine. **10**

   b) Explain SIM instruction. Explain with an example program, how it can be utilized for serial data transfer. **10**

Module – III

10. a) Explain with a neat diagram, the internal architecture of 8086 microprocessor. **10**

    b) What are the different addressing modes of 8086 ? Explain each of them with suitable examples. **10**

OR

11. a) List out segmentation register of 8086. Explain how 8086 provides 1 MB memory address space using the segment registers. What is the purpose of extra segment ? **10**

    b) Explain in detail about 8086 memory banks. **10**

Module – IV

12. a) Explain with suitable diagram, how DAC 0800 is interfaced to 8085 processor. **10**

    b) Explain in detail the control word format of 8255 PPI. **10**

OR

13. a) Explain the different modes of operation of 8255 PPI. **10**

    b) With the help of suitable diagrams, explain how matrix keyboard and printer are interfaced with 8086 processor. **10**
