(Pages : 3) **E – 1995**

Reg. No. : .....

Name : .....

Sixth Semester B.Tech. Degree Examination, May 2018
(2013 Scheme)
13.603 : MICROPROCESSORS AND APPLICATIONS (E)

Time : 3 Hours Max. Marks : 100

PART – A

Answer **all** questions.

1. Explain addressing modes used in following instructions.
   a) LDA 1050_H
   b) MVI A, 08_H
   c) ADD B
   d) MOV A, M

2. Explain CALL and RETURN instructions in 8085 processor.

3. Explain T state, machine cycle and instruction cycle in 8085 processor.

4. What is the need for maximum mode operation in 8086 processor ? How do you differentiate maximum and minimum modes ?

5. Explain the control word of 8255 PPI. **(5×4=20 Marks)**

PART – B

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

Module – I

6. a) With suitable examples, illustrate the execution of following instructions.
   i) DAA ii) LHLD
   iii) DAD iv) RIM

b) Explain how delay routine can be written using :

i) one register

ii) two registers (nested delay loop) and

iii) using a register pair (16 bit register). Also explain, how delay time is calculated.

OR

7. a) List the arithmetic group of instructions of 8085 processor and explain each with examples.

b) Write an assembly language program in 8085 to add an array of 8 bit numbers available in memory starting from 2001_H. Length of the array is specified in 2000_H. Store the result in locations 3000_H and 3001_H. **20**

Module – II

8. a) Explain the sequence of events that take place when an interrupt occur in a microprocessor system. State the use of SIM, RIM, EI and DI instructions of 8085 with reference to interrupts.

b) Explain the different data transfer schemes in 8085 processor.

OR

9. a) Explain with the help of diagrams, how RAM and ROM chips can be interfaced to 8085.

b) Explain the various hardware interrupts in 8085. Explain the priorities. **20**

Module – III

10. a) What are the addressing modes of 8086 microprocessor ? Give examples for each.

b) 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 ?

OR

11. a) Explain, why 8086 internal architecture is divided into BIU and EU ? Discuss the A-bus, B-bus and C-bus and their use.

b) Explain the function of following registers in 8086 microprocessor.

i) AX, BX, CX, DX

ii) CS, DS, SS, ES

iii) BP, SP, SS, ES

iv) IP and instruction queue **20**

Module – IV

12. a) Explain with neat diagram, the internal architecture of 8255 PPI.

    b) Explain how ADC 0800 is interfaced with 8085. Write a simple program for acquiring the data.

OR

13. a) Explain the control word format and the different modes of operation of 8255 PPI.

    b) Explain with a neat diagram, how seven segment LED's are interfaced to 8085 microprocessor. **20**