Code: 13A04507

**R13**

B.Tech III Year I Semester (R13) Supplementary Examinations June 2017
## MICROPROCESSORS & INTERFACING
(Common to CSE & IT)

Time: 3 hours                                                                 Max. Marks: 70

## PART - A
(Compulsory Question)
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1        Answer the following: (10 X 02 = 20 Marks)
  (a)    Mention the function of the instruction ADD M of 8085 microprocessor.
  (b)    What is the function of the ALE line in 8085 microprocessor?
  (c)    Write the function of the instruction STC 8086.
  (d)    Mention the instructions used to perform stack operations in 8086.
  (e)    Name the hardware interrupt pins of 8086 microprocessor.
  (f)    Give the difference between logical address and physical address in 8086.
  (g)    What is the use of the data bus buffer in 8253 IC?
  (h)    List the features of the 8255 PPI IC.
  (i)    Mention two single bit instructions of 8051 with their function.
  (j)    Which ports of 8051 can be combined to form a 16 bit address for external memory access?

## PART - B
(Answer all five units, 5 X 10 = 50 Marks)

UNIT - I

2  (a)  Explain with examples data transfer instructions of 8085.
   (b)  Explain the function and components of the execution unit of 8086 microprocessor.

**OR**

3  (a)  Explain the need for memory segmentation and segment registers of 8086 microprocessor.
   (b)  An 8085 microprocessor executes the following instructions as
            MVI A, 89 H
            MVI B, 74 H
            ORI 40 H
            SUB B
        Evaluate the contents of the accumulator and B register after execution.

UNIT - II

4        Describe the register, indexed and base relative addressing modes of 8086 with example instructions.

**OR**

5  (a)  Explain the instructions used to perform program execution transfer in 8086.
   (b)  8 data bytes are stored in memory locations E000H to E007H. Write an assembly language program for 8086 microprocessor to transfer the block of data to a new location B001H to B008H.

UNIT - III

6  (a)  Explain the steps involved in execution of software interrupts in 8086.
   (b)  Explain the types of software interrupts of 8086.

**OR**

7        With diagram, explain the interfacing of a printer with 8086 microprocessor.

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**UNIT - IV**

8    Explain the basic process and the sequence of events for direct memory access data transfer using 8237 DMA controller.

**OR**

9    Describe the interfacing of a seven segment display for a 8086 system.

**UNIT - V**

10   (a)   Explain briefly serial communication modes in 8051.

(b)   Explain the function of the timers of 8051.

**OR**

11   Describe with diagram, the interfacing of seven segment display with 8051 microcontroller.

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