

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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