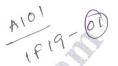
### Librarian

## Learning Resource Centre Acharya Institutes

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10EC/TE62

# Sixth Semester B.E. Degree Examination, July/August 2022 **Microprocessors**

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting at least TWO questions from each part.

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h -	100			

- a. Draw the internal architecture of 8086 and briefly explain the flag register. (10 Marks)
  - b. Explain the following instructions:
    - (i) XLAT
    - (ii) SCASB
    - (iii) LEA BX, 56H[SI]
    - (iv) DAA
    - (v) AAA. (10 Marks)
- 2 a. Explain the following directives:
  - (i) DW
  - (ii) ORG
  - (iii) EVEN
  - (iv) PROC
  - (v) ASSUME. (10 Marks)
  - b. Write a program to find the member of 0's and 1's in a given byte. (05 Marks)
  - c. Give 2 examples of segment over-ride prefix and explain. (05 Marks)
- 3 a. Explain the different string instructions. (12 Marks)
  - b. Bring out the differences between macros and procedures. (08 Marks)
- 4 a. Explain the functions of any five dedicated software interrupts-8086. (08 Marks)
  - b. Write a program to reverse a string of characters. (12 Marks)

#### PART - B

- 5 a. Explain the interface of a matrix keyboard to the 8086 microprocessor. (10 Marks)
  - b. Explain the different types of key switches. (05 Marks)
  - c. Explain key debouncing. (05 Marks)
- 6 a. Explain with a block diagram the architecture of 8087 co-processor. (10 Marks)
  - b. Write an ALP to find the area of a circle. Using 8086 and 8087 instructions. (05 Marks)
  - c. Explain:
    - (i) FSQRT
    - (ii) FSCALE
    - (iii) FPREM
    - (iv) FRNDINT
    - (v) FXTRACT (05 Marks)

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- 7 a. Explain the read cycle timing diagram for minimum mode. (06 Marks)
  - b. Explain the Peripheral Component Interconnect (PCI) bus in a personal computer system.

(06 Marks)

- c. Explain:
  - (i)  $\overline{R}_{D}$
  - (ii)  $\overline{W}_R$
  - $(iii) \qquad \frac{MN}{\overline{M}_X}$

(iv) TEST (08 Marks)

8 Write short notes on:

a. 80386 special registers. (06 Marks)

b. Pentium processors. (08 Marks)

c. Differences between 80386 and 80486. (06 Marks)