



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.

PART – A

- 1 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 number 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)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

- 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) \overline{MN}
(iv) $\overline{M_X}$
 \overline{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)
