

Tribhuvan University
Institute of Science and Technology
2081



Bachelor Level / First Year/ Second Semester/ Science
Computer Science and Information Technology (CSC167)
(Microprocessor)
(NEW COURSE)

Full Marks: 60
Pass Marks: 24
Time: 3 hours.

Candidates are required to give their answers in their own words as far as practicable.
The figures in the margin indicate full marks.

Section A

Long answer questions.

Attempt any TWO questions.

(2×10=20)

1. Explain the internal architecture of 8085 microprocessor with well labeled block diagram. [10]
2. What is ALE signal? Draw a timing diagram for LDA 5000H instruction and explain the machine cycles involved. [2+8]
3. Explain LHL and SHLD instruction. Ten 8-bit data are stored at memory location starting from 6000H. Write an assembly program for 8085 microprocessor to calculate the sum of this data array and store the sum and carry starting from 9500H. [3+7]

Section B

Short answer questions.

Attempt any EIGHT questions.

(8×5=40)

4. Explain about memory segments and segment registers in 8086 microprocessor. [5]
5. Write an ALP to convert the string "computer science" to uppercase using 16 bit microprocessor. [5]
6. Explain different types of IO instructions. Differentiate between I/O mapped I/O and memory mapped I/O. [1+4]
7. What do you mean by vectored interrupt? Explain maskable and non-maskable interrupts in 8085 microprocessor. [2+3]
8. Explain different addressing modes in 8085 microprocessor. [5]
9. Explain register organization in 80386 microprocessor. [5]
10. List out the limitation of parallel communication. Explain the different operation modes of 8255A PPI. [2+3]
11. What is Descriptor? Explain the use of Segment descriptors in physical address conversion in 80286 microprocessor. [1+4]
12. Write short notes on (any two): [2.5+2.5]
 - a. Flags in 8085 MPU
 - b. DMA