

Tribhuvan University
Institute of Science and Technology
2070
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Bachelor Level/ First Year/ Second Semester/ Science — Full Marks: 60
Computer Science and Information Technology (CSc. 153) — Pass Marks: 24
(Microprocessor) — Time: 3 hours.

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

Section A

Attempt any TWO questions: **(10x2=20)**

1. Explain with block diagram of SAP-1 computer.
2. Write an assembly language program for 8086 microprocessor to read a string from keyboard and display each work in separate line. The length of input string can be up to 60 characters.
3. List out the instruction for arithmetic and logic operation in 8085 microprocessor and explain with example. Also mention the effect on flags by each instruction.

Section B

Attempt any EIGHT questions: **(8x5=40)**

4. What is flag> Explain its importance with suitable example.
5. Discuss the bus system in 8085 microprocessor.
6. Draw the timing diagram of instruction MVI A, 36H and explain it.
7. Explain the function of following signals
    a. ALE
    b. INTR
    c. TRAP
8. Write a program in 8085 microprocessor to subtract 16 bit number at 2000H from a 16 bit number at 2010H and store the result at 2020H.
9. Discuss the importance of interrupt in microprocessor based system. Explain how interrupt controller (8259) can be used to handle interrupts.
10. Observe the following program and write the content of Accumulator, register B and flags after execution of each instruction. (assume all flags are reset).

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MVI A, 45H
MVI B, 66H
ADD B
ANI 63H
HLT
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11. What are the various registers in 8086 microprocessor? Explain the function of each register.

12. Discuss ADD, MUL and DIV instruction of 8086 with suitable examples.
13. Explain in briefly on keyboard and display controller.

