Tribhuwan University
Institute of Science and Technology
2065

Bachelor Level / second-semester / Science — Full marks: 60
Computer Science and Information Technology(CSC162) — Pass marks: 24
(Microprocessor) — 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

Attempt any TWO questions: (10x2=20)

1. Draw the block diagram of basic microprocessor and explain it. Which block design is simple and explain it?

2. Why addressing modes are required in microprocessor? Discuss different types of addressing modes with suitable examples.

3. Write a program in 8-bit Microprocessor to multiply two 16 bits numbers and store in the memory location starting from 3500h. Save the carry bits in the location starting from 3600h.

Section B

Attempt any EIGHT questions: (8x5=40)

4. Differentiate between PUSH and POP operations. Write a program to illustrate the use of PUSH operations.

5. Write an assembly language program to subtract two 16-bit numbers.

6. What do you understand by address decoding in the case of memory interfacing? Explain address decoding using 3 to 8 Decoder.

7. Which I/O interface is used in the 8-bit microprocessor? Explain different types of I/O instructions.

8. Why interrupt is required? Draw the block diagram of interrupt handler and explain it.

9. Explain the basic DMA Operation with required timing diagram.

10. How can you interface 8086 microprocessor?

11. How can you achieve pipelining in the basic microprocessor? Explain any type of basic pipelining with suitable diagram.

12. Draw the timing diagram for ADD C and explain it.

13. Write an assembly language to display a string “Assembly language coding is difficult” using 16 bit microprocessor code. Assume any necessary data.

