



**Tribhuvan University
Institute of Science and Technology
2073**

Bachelor Level/ Second Year/ Third Semester/ Science
Computer Science and Information Technology (CSc. 201)
(Computer Architecture)

Full Marks: 80 | Pass Marks: 32 | Time: 3 hours.

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

Long Questions:

Attempt any two questions: (2x10=20)

1. Explain the hierarchy of memory system? What are the key characteristics of memory system? Explain.
2. Explain the DMA controller with block diagram.
3. Differentiate between isolated I/O and memory mapped I/O. What are the advantages and disadvantages of each?

Short Questions:

Attempt any ten questions: (10x6=60)

4. Explain the Grey code with example.
5. Explain the logic micro operations with example.
6. What do you mean by input and output interrupt? Explain.
7. Explain the hardwired control unit with its advantages.
8. What do you mean by addressing mode? Explain.
9. Explain the Booth algorithm with example.
10. Explain the data communication processor with example.
11. Explain the virtual memory with example.
12. Differentiate between RISC and CISC architecture.
13. Explain the data transfer and manipulation instruction with example.
14. Why replacement algorithm is used in associative and set associative mapping? Explain.
15. Write short notes on the following:
 - a) Management Hardware
 - b) I/O interface