Tribhuvan University
Institute of Science and Technology
2067
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Bachelor Level/ Second Year/ Third Semester/Science	Full Marks: 80
Computer Science and Information Technology (CSc 201)	Pass Marks: 32
(Computer Architecture)	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.

Long Questions:
Attempt any two questions: **(2x10=20)**

1. Explain the Micro program sequence with example.
2. Explain with example of Data manipulation instructions.
3. Explain the non-restoring Division algorithm, flow chart hardware implementation with example.

Short Questions:

Answer any ten questions: **(10x6=60)**

4. What do you mean by instruction format? Explain.
5. Differentiate between Hardwired and Micro program control unit.
6. What do you mean by logic micro-operations?
7. Differentiate between direct and indirect addressing modes.
8. Explain with example of Data transfer instructions.
9. What are the major differences between RISC and CISC architecture.
10. Explain the subtraction algorithm with signed 2's compliment.
11. Differentiate between isolated I/O and Memory Mapped I/O.
12. What is DMA transfer? Explain.
13. What is the role of input-output processor (IOP) in computer system? Explain.
14. What is memory management hardware? Explain.
15. Write short notes on the following:

    a. Sequential memory hierarchy.

    b. Random memory hierarchy.