

Tribhuvan University
Institute of Science and Technology
2066
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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 different types of addressing modes and compare each other.
2. What are the major differences between I/O bus and interface modules? What are the advantage and disadvantage of each?
3. What are the three possible modes to transfer the data to and from peripherals? Explain.

Short Questions:

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

4. Differentiate between parity checker and parity generator.
5. What do you mean by shift micro-operations? Explain.
6. Explain the computer instruction with example.
7. Mention the type of interrupt and explain it.
8. What do you mean by field decoding? Explain.
9. Write down the following equation in three address, two address and one address instruction.

$$Y = AB + (C \times D) + E(F/G)$$

10. Explain the characteristics of RISC and CISC.
11. Explain the booth algorithm with example.
12. What is the main function of DMA? Mention the three points DMA configurations.
13. What are the different types of I/O commands? Explain.
14. Differentiate between associative page table and replacement.
15. Write short notes on the following:
    a. Memory space
    b. Address space

