Tribhuvan University
Institute of Science and Technology
2068
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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 restoring division algorithm with example.

2. What do you mean by I/O interface? Explain the I/O bus and Interface module.

3. What do you mean by memory organization? Explain the memory management hardware with example.

Short Questions:

Attempt any ten questions: (10x6=60)

4. Explain the error detection code with example.
5.   Differentiate between logic microoperations and shift microoperations.
6. Explain the I/O instruction with example.
7. What do you mean by memory mapping? Explain.
8. What do you mean by control memory? Explain the microinstructions and microoperation format.
9. What do you mean by addressing modes? Differentiate between indexed addressing modes and base register addressing mode.
10. Explain the Booth algorithm. Multiply 3 x 5 using booth algorithm.
11. Differentiate between isolate and memory mapped I/O.
12. Explain the I/O processor with block diagram.
13. Explain data transfer instruction with example.
14. Differentiate between RISC and CISC processor.
15. Write short notes on the following:
    (a)   Interrupt cycle
    (b)   DMA