

TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2082 Chaitra

Exam.	Regular (New Course)	
Level	BE	Full Marks 60
Programme	BCT	Pass Marks 24
Year / Part	III / I	Time 3 hrs.

Subject: - Computer Organization and Architecture (ENCT 303)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Explain the computer functions with different cycles. What does the width of the data bus and address bus represent in a system? [3+3]
2. Define effective address with example. Write a code to evaluate for $Y = ((A+B)/C) \times (D+(E/F))$ using 3, 2, 1 and 0 address instruction. [4+6]
3. Differentiate between hardwired control unit and microprogrammed control unit. Describe the microinstruction format with example. [4+2]
4. Comparison between DDR, DIMM and SODIMM. [4]
5. Define cache mapping function. Differentiate between direct mapping, associate mapping and set associative mapping. [2+4]
6. Comparison between restoring division and non-restoring division. [4]
7. Perform multiplication -8×3 using Booth multiplication algorithm. [6]
8. Explain the function of four segment pipeline with space diagram. [6]
9. Explain the differences between program Input-output, Interrupt-driven Input-output and direct memory access. [6]
10. Describe the concept of a multicore computer. Explain with example how the hypercube structure interconnects the processor and memory node? [2+4]
