

TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2078 Kartik

Exam.	Back		
Level	BE	Full Marks	80
Programme	BEX, BCT	Pass Marks	32
Year / Part	III / I	Time	3 hrs.

Subject: - Computer Organization and Architecture (CT 603)

- ✓ 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. Differentiate between computer organization and architecture. Compare and explain the bus structure of typical computer system. [2+4]
2. Write down the code for $Y = (A-B/C) \times (D+E \times G) / F$ using three address, two address, one address and zero address instruction format. [8]
3. Comparison between different types of addressing modes with its advantages and disadvantages. [10]
4. Write down the symbolic microprogram for fetch routine and addition execute routine. Explain with diagram the working of microprogram sequencer for control memory. [4+6]
5. How pipeline processing is done in an instruction pipeline? Explain four segment instruction pipeline with timing diagram. [3+5]
6. Describe the procedure for floating point addition and subtraction with help of flowchart and example. [6]
7. Draw the flowchart of Booth's multiplication algorithm and multiply -7×-10 using Booth's multiplication algorithm. [4+4]
8. Explain various mapping methods used in cache memory organization and compare each of them with example. [10]
9. Explain with block diagram of DMA controller. How DMA techniques is different from programmed Input-Output? [6+4]
10. Differentiate between tightly coupled multiprocessor and loosely coupled multiprocessor. [4]
