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. Explain different types of bus arbitration and compare them. [6]

2. Explain different types of data manipulation instructions with example. [8]

3. Explain the component of CPU. Comparison between RISC and CISC architecture. [2+6]

4. Explain the organization structure of a microprogram control unit and the generation of control signals using microprogram. [10]

5. What is meant by hazard in pipelining? Explain with example data and control hazards in pipeline conflict. [4+6]

6. Explain the non-restoring division algorithm for division. Divide 10/5 using non-restoring division. [5+5]

7. Explain the floating point addition and subtraction process using flow chart. [3+3]

8. Explain Least Recently Used (LRU) replacement algorithm in case of hit and miss with suitable example. [8]

9. Differentiate between isolated and memory mapped Input-output. Explain with block diagram of DMA transfer in a computer system. [4+6]

10. Compare and contrast the interconnection structures used in multiprocessor system. [4]

***