'समानो मन्त्रः समितिः समानी'

# UNIVERSITY OF NORTH BENGAL

BCA Honours 2nd Semester Examination, 2022

## CC4-BACHELOR OF COMPUTER APPLICATION (CC-23L) (PRACTICAL)

### COMPUTER SYSTEM ARCHITECTURE LAB

Time Allotted: 2 Hours | Full Marks: 20

*The questions are of equal value.*
*All symbols are equal significance.*

| | |
|---|---|
| **Practical:** | **15** |
| **Viva:** | **5** |
| **Total** | **20** |

**Answer any *one* question on lottery basis**

1. Design and implement a full adder.
2. Design and implement the Boolean function $y = \overline{A}B + C\overline{D}$ .
3. Design a 2 bit parallel adder.
4. Design a $1 \times 4$ Demultiplexer circuit.
5. Design a circuit to verify truth table of a two bit comparator using logic gates.
6. Design logic circuit of a T flip flop.
7. Design logic circuit of a clocked S-R flip flop using NAND gates.
8. Design a $4:2$ Encoder circuit and verify the truth table.
9. Design odd parity generator.
10. Design circuit for $\overline{A} \cdot (B + A) + \overline{B} \cdot A$

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