Bahria University,

Karachi Campus



LAB EXPERIMENT NO.

**\_\_\_\_\_\_9 \_\_\_\_**

LIST OF TASKS

|  |  |
| --- | --- |
| TASK NO | OBJECTIVE |
| 01 | How do these gate treat when inputs are unconnected (Low or High)? Briefly explain why |
| 02 | Do swapping A and B make any difference? |
| 03 | What is difference between an Inverter and a NOT gate? |
| 04 | How can you make an inverter using a NOR gat? And using NAND gate? |
| 05 | Implement XOR gate function using basic gates? |
| 06 | Implement XNOR gate function using basic gates? |

Submitted On:

\_\_\_\_\_\_\_\_\_\_\_\_\_

(Date: DD/MM/YY)

**OBSERVATIONS / RESULTS & DISCUSSION:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Input: A** | **Input: B** | **(A●B)**  **7400**  **NAND** | **(A+B)**  **7402**  **NOR** | **A●B**  **7408**  **AND** | **A+B**  **7432**  **OR** |
| 0 | 0 | 1 | 1 | 0 | 0 |
| 0 | 1 | 1 | 0 | 0 | 1 |
| 1 | 0 | 1 | 0 | 0 | 1 |
| 1 | 1 | 0 | 0 | 1 | 1 |
| 0 | Not Connected | 1 | 1 | 0 | 0 |
| 1 | Not Connected | 1 | 0 | 0 | 1 |
| Not Connected | 0 | 1 | 1 | 0 | 0 |
| Not Connected | 1 | 1 | 0 | 0 | 1 |
| Not Connected | Not Connected | 0 | 1 | 0 | 0 |

**CONCLUSION:**

1. The output of AND Gate is only high when all inputs are high.

2. The output of OR Gate is low when all inputs are low.

3. The output of NOT Gate is inverse of input.

4. The output of NAND Gate is low when all inputs are high.

5. The output of NOR Gate is high when all inputs are low.

6. The output of XOR Gate is high when the inputs are at different logic levels.

7. The output of XNOR Gate is high when the inputs are at same logic levels.