

**DIGITAL ELECTRONICS**

**DEE 4544**

**EXPERIMENT 2**

**STUDENT NAME:**

**STUDENT ID:**

**PROGRAMME:**

**SEMESTER:**



**FACULTY OF ENGINEERING**

**EXPERIMENT 2 (CO4, PO7):**

**Evaluate combinational logic circuits using Multisim Live. (C4, PLO7).**

* 1. **Objectives**

To verify truth table of logic gates (NAND and NOR gates).

**2.0 Software**

Multisim Live

**3.0 Theory**

NAND is an abbreviation for “NOT AND.” A two-input NAND gate is a digital combination logic circuit that performs the logical inverse of an AND gate.

NOR gate is a digital logic gate that implements logical NOR - it behaves according to the truth table to the right. A HIGH output (1) results if both the inputs to the gate are LOW (0); if one or both input is HIGH (1), a LOW output (0) results. NOR is the result of the negation of the OR operator.

**4.0 Problem Statement**

1. Verify the truth table of NAND gate.

A screenshot of a computer

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Description automatically generated

1. Verify the truth table of AND gate.

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**5.0 Results**

(Show the screenshot of the circuit simulation, and the output graph)

**6.0 Observations** (note: discuss your observation from the experimental results)

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**7.0 Conclusion**

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**COURSE: DIGITAL ELECTRONICS (BEE 2123)**

**LAB EXPERIMENT 2 (C4, PO7): Evaluate combinational logic circuits using reprogrammable logic devices. (C4, PLO7).**

**Rubric for the lab report**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Criteria | Excellent  5 | Very Good  4 | Good  3 | Poor  2 | Very Poor  1 |
| Ability to construct the basic logic circuit | Fully able to construct the basic logic circuit | Reasonably able to construct the basic logic circuit | Not quite able to construct the basic logic circuit | Poor ability to construct the basic logic circuit | Very poor ability to construct the basic logic circuit |
| Ability to verify the truth table of logic gates | Fully able to verify the truth table of logic gates | Reasonably able to verify the truth table of logic gates | Not quite able to verify the truth table of logic gates | Poor ability to  verify the truth table of logic gates | Very poor ability to verify the truth table of logic gates |