

**DIGITAL ELECTRONICS**

**DEE 4544**

**EXPERIMENT 4**

**STUDENT NAME:**

**STUDENT ID:**

**PROGRAMME:**

**SEMESTER:**



**FACULTY OF ENGINEERING**

**EXPERIMENT 4 (CO4, PO7):**

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

* 1. **Objectives**

To design and simulate digital logic circuits using Multisim Live

**2.0 Software**

Multisim Live

**3.0 Theory**

A logic gate is a device that performs a Boolean function, a logical operation performed on one or more binary inputs that produces a single binary output.

**4.0 Problem Statement**

Based on the logic circuit below, write an Boolean expression, design the circuit and prove the truth table in Multisim Live.

A close up of a number

Description automatically generated

A diagram of a logic diagram

Description automatically generated

**5.0 Results**

(Show the screenshots of each logic circuit construct and simulation result in Multisim)

**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 (DEE 4544)**

**LAB EXPERIMENT 2 (C4, PO7): Evaluate combinational logic circuits using Multisim Live.**

**Rubric for the lab report**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Criteria | Excellent  5 | Very Good  4 | Good  3 | Poor  2 | Very Poor  1 |
| Ability to understand and construct the logic circuit based on the given Boolean Expression | Fully able to understand and construct the logic circuit based on the given Boolean Expression | Reasonably able to understand and construct the logic circuit based on the given Boolean Expression | Not quite able to understand and construct the logic circuit based on the given Boolean Expression | Poor ability to understand and construct the logic circuit based on the given Boolean Expression | Very poor ability to understand and construct the logic circuit based on the given Boolean Expression |
| Ability to interpret the given Boolean expression into logic circuit | Fully able to interpret the given Boolean expression into logic circuit | Reasonably able to interpret the given Boolean expression into logic circuit | Not quite able to interpret the given Boolean expression into logic circuit | Poor ability to  interpret the given Boolean expression into logic circuit | Very poor ability to interpret the given Boolean expression into logic circuit |