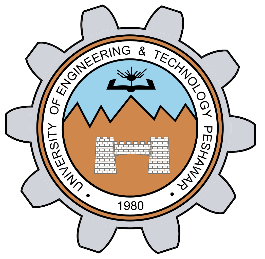
**ASSESSMENT RUBRICS LAB # 04**

**Verification of Ohm’s law Using Bread-Board**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **LAB REPORT ASSESSMENT** | | | | |
| **Criteria** | **Excellent** | **Average** | **Nil** | **Marks Obtained** |
| 1. **Objectives of Lab** | All objectives of lab are properly covered  [Marks 1] | Objectives of lab are partially covered  [Marks 0.5] | Objectives of lab are not shown  [Marks 0] |  |
| 1. **Ohm’s Law and Mathematical Expression.** | Correct definition of Ohm’s law, mathematical expression and circuit diagram is shown.  [Marks 1] | Correct statement of Ohm’s law and no mathematical expression and circuit diagram with no labels.  [Marks 0.5] | No definition, mathematical expression and circuit diagram is shown [Marks 0] |  |
| 1. **Apparatus Used** | All equipment and electrical components used are shown  [Marks 1] | Equipment and electrical components are partially shown and some of the components are missing [Marks 0.5] | Equipment and electrical components used are not shown  [Marks 0] |  |
| 1. **Procedure** | All experimental steps are shown in detail  [Marks 2] | Some of the experimental steps are missing [Marks 1] | Experimental steps are missing  [Marks 0] |  |
| 1. **Observations & Calculations** | All experimental results are completely shown in form of table and error calculation between theoretical and practical values are also shown.  [Marks 2] | Experimental results are partially shown and some of the observations are missing.  [Marks 1] | No experimental results are shown  [Marks 0] |  |
| 1. **Graphs** | Graphs from experimental results of Ohm’s law using theoretical and practical are shown with labels. [Marks 2] | Graphs from experimental results of Ohm’s law are shown with no labels and no comparison of theoretical and practical values. [Marks 1] | No graphs are shown  [Marks 0] |  |
| 1. **Conclusion** | Conclusion about experimental results is properly explained and satisfactory. [Marks 1] | Conclusion about experimental results is not properly explained and satisfactory. [Marks 0.5] | No conclusion is shown  [Marks 0] |  |
| Total Marks Obtained:\_\_\_\_\_\_\_\_\_\_  Instructor Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | |
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**CS-1 102LCircuit And System Lab**

**Department of Computer System Engineering**

**University of Engineering and Technology Peshawar**

Submitted to: **Engr. Faiz Ullah**

Submitted by: **Muhammad Saad**

Reg ID: **21PWCSE1997**

**DCSE , Batch 23 , Section “B”**



Student Signature: \_\_\_\_\_\_\_\_\_\_\_\_

**Lab No: 3**

**Verification of Ohm’s law Using Bread-Board**

**Lab Report No 04: Verification of Ohm’s Law using Bread-Board**

**Objective:**

* In this we verified Ohm’s law using bread-board by digital multi-meter

**Ohm’s Law:**

Definition:

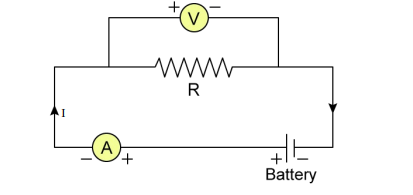
Ohm’s law gives the relationship between the current and the potential difference. Ohm’s law states that the current flowing through a wire is directly proportional to the potential difference across it.

Mathematical expression:

I∝V

I= 1/R V

V = IR

Here 1/R is the called conductance while R is resistance. V is potential difference and I is current. Circuit Diagram: Here is a basic circuit that can be used used to verify Ohm’s law. An ammeter is connected in series and a voltmeter in parallel with the resistor that can help verification of Ohm’s law. 

Circuit Diagram:

Fig01.

In order to verify the Ohm’s law we to check the voltage across the resistor by connecting the DMM in parallel to the resistor and to measure the current by connecting DMM in series between the battery and resistor.

**Apparatus Used:**

* Bread Board
* Digital Multi-meter
* Resistor
* Connecting wires
* Variable DC power source

**Procedure:**

1. First we have to connect a resistor across terminals of a variable power source in a bread-board using connecting wires.
2. Then we have to observe the voltage of the terminals and current flowing through the resistor by connecting the multi meter in series with the resistor.
3. And at the end we have to check the observed value of current and calculated value of current.

**Observations and Calculations:**

|  |  |  |
| --- | --- | --- |
| Sr.No | Current(Amp) | Voltage(V) |
| 1 | 0.18 | 1 |
| 2 | 0.34 | 3.3 |
| 3 | 0.55 | 5 |
| 4 | 0.6 | 7.1 |
| 5 | 0.64 | 8.1 |
| 6 | 0.68 | 10 |

**Graph:**

**Conclusion:**

According to Ohm’s law, the should have been a continuous straight line with slope equal everywhere on the graph. The error between the calculated value and the observed is very high. The multi meter was not detecting when it was connected in series with the resistor.