**Lab - 6 Datasheet**

**EE 2301: Circuit Analysis – I**

|  |  |
| --- | --- |
| Student Name(s) |  |
| Date Lab Performed: |  |

## **Task 1: Construct the Power Supply Network and Measure and for Various Values using a Decade Resistance Box**

Use a DMM to measure and for the values specified in Table 1 and record these values in the table.

## **Task 2: Compute for Various Values**

For each value in Table 1, compute by multiplying the and values in the corresponding row.

**Table 1 – Maximum Power Transfer (MPT) Table**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| 100 |  |  |  |
| 200 |  |  |  |
| 300 |  |  |  |
| 400 |  |  |  |
| 500 |  |  |  |
| 600 |  |  |  |
| 700 |  |  |  |
| 800 |  |  |  |
| 900 |  |  |  |
| 950 |  |  |  |
| 960 |  |  |  |
| 970 |  |  |  |
| 980 |  |  |  |
| 990 |  |  |  |
| 1000 |  |  |  |
| 1010 |  |  |  |
| 1020 |  |  |  |
| 1030 |  |  |  |
| 1040 |  |  |  |
| 1050 |  |  |  |
| 1100 |  |  |  |
| 1200 |  |  |  |
| 1300 |  |  |  |
| 1400 |  |  |  |
| 1500 |  |  |  |

## **Task 3:** **Plot versus Curve and Identify MPT Point**

1. Screenshot: Plot a versus curve

**Table 2 - MPT Comparison**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **From LTspice Simulations** | | **From Table 1 Measurements** | | **% error**  Column 2 vs Colum 4 |
| **Pmax ()** | **RL at Pmax ()** | **Pmax ()** | **RL at Pmax ()** |
|  |  |  |  |  |

### **Task 4: Error Calculations**

Within the given space, show the step-by-step **%error calculation** for the values of column 2 (theoretical value) and column 4 (experimental value):

|  |
| --- |
|  |

**Conclusions:** (min 150 words. Max 300 words)

**Lab-6 Datasheet Submission Requirements**

* Make sure to write a thoughtful conclusion in the **Conclusions** section summarizing your key observations and learnings from this lab. Conclusions should be at least **150 words** long. Conclusions section is worth 5 points (the lab is worth total 100 points – Prelab: 30 pts, Hands-on Lab: 70 pts).
* **File format:** Once this Datasheet is complete, **save/convert** this word file **as a .pdf file** having a filename as: “Lab-6 Datasheet\_FirstName of Student 1\_FirstName of Student 2.pdf”. For example, if name of the two students performing the lab in a group are Tom Cruz and Morgan Freeman, respectively, then the Lab-6 Datasheet file should have the following name: “Lab-6 Datasheet\_Tom\_Morgan.pdf”.
* Check with your lab instructor about specific instructions on how to submit your Lab-6 Datasheet for assessment and grading.