**Lab - 1 Datasheet**

**Circuit Analysis – I**

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

# Task 2a:

**Table 1: MATLAB Exercise # 1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Serial #** | **Operation Performed** | **Output Results from MATLAB** | |
| **Rectangular Form** | **Polar Form** |
| (i) | Addition |  |  |
| (ii) | Subtraction |  |  |
| (iii) | Multiplication |  |  |
| (iv) | Division |  |  |

# Task 2b:

|  |  |  |
| --- | --- | --- |
| **Solved Results** | | |
|  |  |  |
|  |  |  |

**Table 2: MATLAB Exercise # 2**

# Task 2c:

**Table 3: MATLAB Exercise # 3**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Write Equations Here** | | **Solved Results** | | |
|  |  |  |
|  |  |  |  |  |
|  |  |
|  |  |

# Task 4a: Series DC Circuit

**Table 4:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **KSU ID** | **Resistor Values** | | **Capacitor value** (used for 4b/4c) | **Simulation Result of Task 4a**  **(LTspice Exercise # 1)** | |
|  |  |  | **DC Voltage at the node between and** | **DC Current through the circuit** |
|  |  |  |  |  |  |

Note: The resistance, capacitance, voltage and current values must be written with proper units.

**Screenshot # 1:** Series DC Circuit (Place your Screenshot # 1 below)

# Task 4b: Time Domain Analysis on RC Filter

**Screenshot # 2** (Place your Screenshot # 2 below)

# Task 4c: AC Sweep analysis on RC filter

**Screenshot # 3** (Place your Screenshot # 3 below)

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

**Lab-1 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-1 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-1 Datasheet file should have the following name: “Lab-2 Datasheet\_Tom\_Morgan.pdf”.
* Check with your lab instructor about specific instructions on how to submit your Lab-1 files for assessment and grading.