**Prelab-10 Worksheet**

**Circuit Analysis – I**

|  |  |
| --- | --- |
| Student Name(s): |  |
| Student ID(s): |  |

**Task 1a:**

**Show Detailed Calculations for Row 1 in Table 1:**

**Table 1. Analytical Calculations**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | **Power Factor** | **Leading or Lagging** |
| **1000** |  |  |  |  |  |  |
| **2000** |  |  |  |  |  |  |
| **3000** |  |  |  |  |  |  |
| **4000** |  |  |  |  |  |  |

**Task 1b:**

**Show Calculations to find Resonant Frequency:**

**Resonant Frequency:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Task 2:**

**LTspice Screenshot # 1: Signal Frequency = 1 kHz**

Put screenshot of the simulated plots from LTspice. Include only the plot window (containing ); do not put the circuit schematic.

**LTspice Screenshot # 2: Signal Frequency = 2 kHz**

Put screenshot of the simulated plots from LTspice. Include only the plot window (containing **and** ); do not put the circuit schematic.

**LTspice Screenshot # 3: Signal Frequency = 3 kHz**

Put screenshot of the simulated plots from LTspice. Include only the plot window (containing **and** ); do not put the circuit schematic.

**LTspice Screenshot # 4: Signal Frequency = 4 kHz**

Put screenshot of the simulated plots from LTspice. Include only the plot window (containing **and** ); do not put the circuit schematic.

**LTspice Screenshot # 5: Resonant Frequency**

Put screenshot of the simulated plots from LTspice. Include only the plot window (containing **and** ); do not put the circuit schematic.

**Prelab-10 Submission Requirements:**

* Convert/save this Prelab-10 Worksheet **as a .pdf file** with a filename as follows:

**If Prelab is done individually:** “Prelab-10\_FirstName\_LastName.pdf”.

**If Prelab is done in a group:** If you have been explicitly instructed by your lab instructor to perform the Prelab exercises in a group, then save this Prelab-10 Worksheet **as a .pdf file** with a filename following the convention below:

Let’s consider that two students are doing the prelab in a group. Then the filename should be: “Prelab-10\_FirstName of Student 1\_FirstName of Student 2.pdf”. For example, if name of the two students are Tom Cruz and Morgan Freeman, respectively, then the Prelab-10 Worksheet file should have the following name: “Prelab-10\_Tom\_Morgan.pdf”. Similar file naming convention should be followed to properly name your LTspice schematic file. Improperly named files may be subject to point deductions.

* Check with your lab instructor about specific instructions on how to submit your Prelab files for assessment and grading.

**Prelab Score:** This prelab contributes to 30 points toward Lab 10 (each Task in the Prelab is worth 10 points). In-lab hands-on work will contribute to 70 points (Lab 10 total is 100 points).