JEE2330 – Fall 2017
Lab #4 Values and Notes

**Experimental Procedures:**
Section 4.5.1
  Follow instruction in manual

Section 4.5.2
  Use a frequency of 1 kHz for $f_1$.

Section 4.5.3
  Use waveform (2) only.

Section 4.5.4
  Skip this step of the procedure.

Section 4.5.5
  Use a 1N4001 diode and the red 47 $\Omega$, 1 W resistor for this circuit. Set the frequency to 1 kHz for $f_5$.

**Report:**
Section 4.6.1 (14 points)
  Follow the procedure in the manual.

Section 4.6.2 (5 points)
  Follow the procedure in the manual.

Section 4.6.3
  Skip this part of the report.

Section 4.6.4 (8 points)
  Calculate the RMS voltage values for waveform (1) and (6) only.

Section 4.6.5 (10 points)
  Calculate the Fourier series coefficients for waveforms (1) and (6) only. Limit your calculations to the average value ($n = 0$) and the first 10 harmonic coefficients ($n = 1, 2, 3, 4, 5, 6, 7, 8, 9, 10$). Present these coefficients in tabular form.

Section 4.6.6 (7 points)
  Follow the procedure in the manual for waveforms (1) and (6) only.

Section 4.6.7 (51 points)
  Present the periodic waveforms chart as specified in the lab manual.
Section 4.6.11 (5 points)
Follow the procedure in the manual with one addition. Also include the same respective data taken at frequency $f_1$ in Section 4.5.2. In other words, use data for four frequencies, namely 500 Hz, 1000 Hz, 2000 Hz, and 5000 Hz.

Section 4.6.17 (points included in 4.6.7)
Present the hardcopy of waveform 7 in your report. Note, all data taken in Section 4.5.5 was to be recorded on the Periodic Waveform Chart.