BİLKENT UNIVERSITY
ELECTRICAL & ELECTRONICS ENGINEERING DEPARTMENT

EE 201 CIRCUIT THEORY

EXPERIMENT 0

Preliminary Work

(1) Read the sheets entitled "Laboratory Rules", "Developing Your Experiment Skills" and "Introductory Lab Notes".

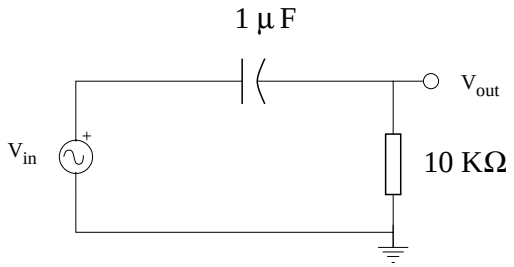
Experiment:

Part 1: Obtain 1 KHz, 10 KHz, 100 KHz, 1 MHz, sine-, triangular-, square-waves of peak amplitude 0.5 V. Observe these waveforms by using an oscilloscope and measure their "rms" voltage values by using a multimeter.

Part 2: Obtain a 75 KHz sine wave of 0.5 V peak-to-peak amplitude and 1 V DC value.

Part 3: Get 1 $K\Omega$, 10 $K\Omega$, 100 $K\Omega$, resistors. Note their color codes and determine their tolerances? Measure the resistance of these resistors by using a multimeter. Are the observed values within the tolerance limits of the resistors?

Part 4: Set up the following circuit.



Measure the output voltage for 1 KHz, 10 KHz, 100 KHz, 1 MHz sine-wave input waveforms ($v_{pp} = 1\ V$). Connect the X probe of the scope to v_{in} and Y probe of the scope to v_{out} and observe both waveforms on the screen. Repeat this for the $X - Y$ mode.