Lab 1. (42 points total)

1-1 Ohm's Law (5 points)

1 point for I on the y-axis, V on the x-axis
1 points for 1.5K line
1 points for 1.0K line
2 points for labeled axes

1-1 A Qualitative View (6 points)

1 point for "fixed" circuit diagram
1 point for ideal voltmeter internal resistance
1 point for ideal voltmeter explanation
1 point for ideal ammeter internal resistance
1 point for ideal ammeter explanation
1 point for accuracy of current measurement

1-1 A Quantitative View (3 points)

1 point for circuit diagram of the "alternative hookup"
2 points for error explanation (20K vs 20M)

1-2 An Incandescent Lamp (5 points)

1 point for I on the y-axis, V on the x-axis
1 point for enough points to reach nonlinear range
1 point for labeled axes
2 points for "resistance" of light bulb

1-3 The Diode (10 points)

1 point for linear plot
1 point for I on the y-axis, V on the x-axis
1 point for at least 4 points
1 point for labeled axes

1 point for log-linear plot
1 point for log I on the y-axis, V on the x-axis
1 point for at least 4 points
1 point for labeled axes

2 points for behavior of the diode

1-5 Oscilloscope (4 points)

1 point for the rise time
2 points for explanation for how TTL/CMOS (or Pulse) works
1 point on explanation for how the AC/DC selector works
1-6 Voltage Divider (9 points)

DC Source

1 point for V(open circuit) circuit diagram
1 point for V(open circuit) measurement
1 point for load resistor attached to V(out) circuit diagram
1 point for explanation

1 point for I(short circuit) circuit diagram
1 point for I(short circuit) measurement

2 points for Thevenin equivalent circuit

AC Source

1 point for explanation of high frequency output