

By using the experimental set up (the designed electric circle), the voltage was varied in steps from 0 V – 0.6 V by using a voltmeter. At each voltage value the current value was recorded by using an ammeter. The values of the voltage (V) and current (I) are tabulated in tables in case of forward bias PN junction. The procedure is repeated for the reverse bias PN junction and the results and measurements are tabulated in the results' table. The data obtained from the experimental set up are plotted in I–V graph.

From the graph the I–V characteristics of the semiconductor material under investigation are obtained. The knee voltage (V_{knee}) is determined from the plotted I–V graph.