

Instrumentation Pre-Lab Quiz

Due Jun 13 at 1pm **Points** 10 **Questions** 3 **Available** Jun 9 at 12am - Jun 13 at 1:30pm 5 days
Time Limit None

Instructions

Please answer all questions. Make sure your answers are clear and complete. Do not copy and paste your answers from the internet. Please watch all of the posted youtube videos posted and take notes.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	95 minutes	0 out of 10 *

* Some questions not yet graded

Score for this quiz: 0 out of 10 *

Submitted Jun 10 at 11:52am

This attempt took 95 minutes.

Question 1

Not yet graded / 5 pts

Describe in detail how a breadboard is connected. Include how different rows/columns of the breadboard are connected. Note that the youtube video gives an exact description of how all breadboards look and behave. Make sure to include which rows/columns are not connected to each other as well.

Your Answer:

The breadboard is design to make it easy to prototype circuits without soldering. breadboards are usually numbered along the sides to make it easy to figure out where to place the parts of the circuit you are trying to construct. These boards can also be connected together to increase the size of the board. Each row has a strip of metal (usually copper) underneath each hole. This strip of metal connects each hole (solderlessly). The spring clips hold the component in place and electrically connect what ever wires are plugged into that row.

There is a channel down the center of the bread board. This is where (ICs) integrated circuits are mounted on the proto-board.

The outer series of holes are usually called power rails and this is where power is fed into the circuit. The power rails sometimes have positive and negative polarity designated with red (+) and black/blue (-). This varies depending on the manufacturer.

Wires plugged into different ROWS are NOT connected unless YOU install a jumper wire manually to connect them.

Question 2**Not yet graded / 2 pts**

What does it mean to use a multimeter to check continuity?

Your Answer:

When the "continuity" setting is selected, the multimeter detects whether the resistance approaches zero. This means that current will flow virtually unimpeded through the segment of circuitry that you are testing.

Question 3**Not yet graded / 3 pts**

Define resistance, voltage, and current in an electric circuit. State Ohm's Law.

Your Answer:

Voltage:

Voltage is analogous with "Potential Energy". As with potential energy (PE) in kinematics, voltage isn't moving.

Current:

Current is the amount of electric charge MOVING through the circuit. This is measured in Amperes (Amps). Amps is measured in Coulombs per second.

Resistance:

Is anything that slows down the flow of the electric charge. Resistance may arise from the physical properties of the wire used or installed "resistors" in a circuit. Resistance is measured in Ohms.

Ohm's Law

$$V = I \cdot R$$

Voltage equals Amperes times Resistance.

Quiz Score: **0** out of 10