**PRELAB 1**

**QUESTION 1**

1. Which of the following statements accurately describes Ohm's law?

|  |  |  |
| --- | --- | --- |
|  |  | The resistance of a conductor is directly proportional to its voltage |
|  |  | The voltage across a conductor is directly proportional to the current passing through it |
|  |  | The voltage across a conductor is inversely proportional to the current passing through it |
|  |  | The resistance of a conductor is inversely proportional to its voltage |

**10 points**

**QUESTION 2**

1. Which of the following units is used to measure resistance?

|  |  |  |
| --- | --- | --- |
|  |  | Ohm |
|  |  | Volt |
|  |  | Ampere |
|  |  | Watt |

**10 points**

**QUESTION 3**

1. Which of the following is the correct equation for Ohm's law?

|  |  |  |
| --- | --- | --- |
|  |  | V = IR |
|  |  | I = VR |
|  |  | R = VI |
|  |  | V = I/R |

**10 points**

**QUESTION 4**

1. Which of the following is an example of a device that obeys Ohm's law?

|  |  |  |
| --- | --- | --- |
|  |  | Diode |
|  |  | Capacitor |
|  |  | Resistor |
|  |  | Inductor |

**10 points**

**QUESTION 5**

1. According to Ohm's Law, if the voltage across a resistor is doubled while the resistance remains the same, what happens to the current flowing through the resistor?

|  |  |  |
| --- | --- | --- |
|  |  | It is doubled. |
|  |  | It is halved. |
|  |  | It remains the same. |
|  |  | It is quadrupled. |

**10 points**

**QUESTION 6**

1. What is the relationship between resistance and temperature for most conductors?

|  |  |  |
| --- | --- | --- |
|  |  | Resistance decreases as temperature increases |
|  |  | Resistance increases as temperature increases. |
|  |  | Resistance stays constant regardless of temperature. |
|  |  | Resistance is directly proportional to temperature. |

**10 points**

**QUESTION 7**

1. When the length of the conductor is doubled and the area of the cross-section remains the same then its resistance

|  |  |  |
| --- | --- | --- |
|  |  | Remains the same |
|  |  | Will be doubled |
|  |  | Will become half |
|  |  | Will increase by four times |

**10 points**

**QUESTION 8**

1. The current passing through a resistor in a circuit is 1 A when the voltage across the same resistor is 10 V. What is the value of current when the voltage across the resistor is 8 V

|  |  |  |
| --- | --- | --- |
|  |  | 0.8 A |
|  |  | 8 A |
|  |  | 80 A |
|  |  | 0.08 A |

**10 points**

**QUESTION 9**

1. Ohm’s law is not applicable to which of the following options?

|  |  |  |
| --- | --- | --- |
|  |  | Dc circuits |
|  |  | High currents |
|  |  | Small resistors |
|  |  | Semiconductor |

**10 points**

**QUESTION 10**

1. In Physics, the potential difference represents \_\_\_\_

|  |  |  |
| --- | --- | --- |
|  |  | Current |
|  |  | Voltage |
|  |  | Resistor |
|  |  | None of these answers |