**Electricity Test Review Questions**

\* Your test will be 30 multiple choice questions.

1. What is the nature of electrons and why can they move? In what direction do they travel in a circuit?
2. Define static electricity, electric current and conventional current.
3. Define the following, including its unit and symbol.
   1. Current
   2. Voltage
   3. Resistance
4. What is resistance? What is Ohm’s Law? How is voltage and current affected by resistance?
5. How is an ammeter positioned in a circuit?
6. The current through a resistor is 25 A. The potential difference between its terminals is 50 V. What is the resistance in this circuit?
7. A light bulb has a current of 340 mA. If it has a resistance of 8 Ω, what is its potential difference?
8. What is a short circuit? What is a fuse and what is a circuit breaker? What are they for?
9. What are AC and DC and what is the difference?
10. What is the advantage of connecting cells in series over connecting cells in parallel?
11. What is the resistance of a circuit that has a voltage of 90 V and a current of 3 A?
12. What are the schematic diagrams for a switch, resistor, light bulb, and cell?
13. What is the voltage of 5 cells (2 V each) in series?

Use the resistor colour coding chart below to answer the following question.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Colour | black | brown | red | orange | yellow | green | blue | violet | grey | white | Gold | Silver | None |
| Numeric value | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 5% | 10% | 20% |

1. Calculate the resistance of a resistor with the following bands of colours:

Black, Orange, red, silver

1. What are the positive and negative terminals of a battery called?
2. A light bulb is connected to a 18.0 V battery. The current through the light bulb is measured to be 600mA. What is the resistance of the light bulb?
3. Explain parallel and series circuits in regards to pathways.

Extension for longer semesters:

In Canada, where do average households expend energy?

Why is it important to conserve energy?