QUEBEC SCIENCE AND TECHNOLOGY, SECONDARY IV · UNIT C

# Material World - Electricity, Electromagnetism, Fluids, Forces and Motion, and Energy — Practice Test

**Quebec Science and Technology, Secondary IV • 25 questions**

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **A current of 2 amperes flows through a resistor of 5 ohms. The voltage, in volts, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **A device of power 100 watts runs for 3 hours. The electrical energy used, in watt hours, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **A device operates at 12 volts with a current of 2 amperes. Its electrical power, in watts, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **A device transforms 100 joules of electrical energy and delivers 60 joules of useful energy. Its energy efficiency, in percent, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **A voltage of 12 volts is applied across a resistor of 4 ohms. The current, in amperes, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **A charge of 12 coulombs passes a point in 3 seconds. The current, in amperes, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **A fuse protects a circuit by melting and breaking the circuit when the current is too**

A small

B large

C steady

D slow

Understand It with Pulse | Flag a mistake

8 **A magnetic field exists around a wire carrying a**

A plastic rod

B current

C glass tube

D wooden block

Understand It with Pulse | Flag a mistake

9

## A transformer works only with

A direct current only

B alternating current

C static charge only

D no current

Understand It with Pulse | Flag a mistake

10

## Adding branches in parallel decreases the total

A resistance

B voltage

C energy

D charge

Understand It with Pulse | Flag a mistake

11 **Adding resistors in series increases the total**

A current

B voltage of the cell

C charge

D resistance

Understand It with Pulse | Flag a mistake

12 **An electrical conductor allows electric charge to flow**

A easily

B never

C only in heat

D only in light

Understand It with Pulse | Flag a mistake

13 **Copper wire is a good conductor because it contains free**

A protons

B electrons

C neutrons

D photons

Understand It with Pulse | Flag a mistake

14 **Electrical energy is measured in**

A amperes

B ohms

C volts

D joules

Understand It with Pulse | Flag a mistake

15 **A current of 3 amperes flows through a resistor of 4 ohms. The voltage, in volts, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

16 **A device of power 60 watts runs for 5 hours. The electrical energy used, in watt hours, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

17 **A device operates at 10 volts with a current of 3 amperes. Its electrical power, in watts, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **A device transforms 90 joules of electrical energy and delivers 45 joules of useful energy. Its energy efficiency, in percent, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

19 **A voltage of 20 volts is applied across a resistor of 5 ohms. The current, in amperes, is**

ANSWER

Understand It with Pulse | Flag a mistake

20 **A charge of 20 coulombs passes a point in 5 seconds. The current, in amperes, is**

ANSWER

Understand It with Pulse | Flag a mistake

21 **A current of 4 amperes flows through a resistor of 3 ohms. The voltage, in volts, is**

ANSWER

Understand It with Pulse | Flag a mistake

22 **A device of power 200 watts runs for 2 hours. The electrical energy used, in watt hours, is**

ANSWER

Understand It with Pulse | Flag a mistake

23 **A device operates at 6 volts with a current of 4 amperes. Its electrical power, in watts, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

24 **A device transforms 200 joules of electrical energy and delivers 80 joules of useful energy. Its energy efficiency, in percent, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

25 **A voltage of 18 volts is applied across a resistor of 6 ohms. The current, in amperes, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

# ANSWER KEY

| | | | | | |
|---|---|---|---|---|---|
| **1.** | 10 | **10.** | A | **19.** | 4 |
| **2.** | 300 | **11.** | D | **20.** | 4 |
| **3.** | 24 | **12.** | A | **21.** | 12 |
| **4.** | 60 | **13.** | B | **22.** | 400 |
| **5.** | 3 | **14.** | D | **23.** | 24 |
| **6.** | 4 | **15.** | 12 | **24.** | 40 |
| **7.** | B | **16.** | 300 | **25.** | 3 |
| **8.** | B | **17.** | 30 | | |
| **9.** | B | **18.** | 50 | | |

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