Name: Class:

Total Possible Marks: 16

Resistance and IV Characteristics

____
10

1.

(a) _____ is anything in the (b) _____ which (c) _____ the (d) _____ of (e) _____. It is measured in ohms. The current flowing through a (f) _____ depends upon the (g) _____ difference across it and the resistance of the component itself.

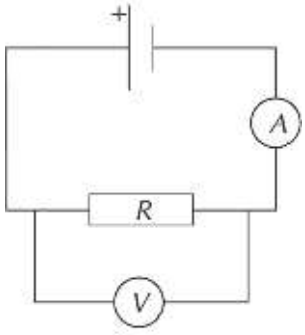
The (h) _____ the resistance of a component, then the (i) _____ the current flowing through it for a given potential (j) _____, factors all linked together in the expression:

V = IR

circuit	component	potential	Resistance	greater
difference	smaller	current	flow	reduces

____ 6

2. The relationship between potential difference current and resistance is given by the expression:



$$V = I \times R$$

Where V is the potential difference measured in volts, I is the current measured in amperes and R is a resistance measured in ohms.

____ 2 a. A voltmeter in a circuit across a resistor of resistance 4 ohms displays a reading of 6 V. An ammeter connected to the circuit would display what reading in amperes?

____ 2 b. The resistor is exchanged for another one, this time the ammeter reached 3 A, if the potential difference remains the same what is the resistance of the new component?

____ 2 c. If we increase the potential difference by 100% and take a reading from the ammeter of 0.000025 A (25 micro amps) what is the resistance of the resistor component now?