كلية العلوم

قسم الفيزياء الطبية

MedicalPhysics

المرحله : الأولى
الماده : الكهربائية –عملي
المختبر:الأول
اسم التجربة: "   قانون اوم "
رقم التجربة : 1

مشرفة المختبر: د . دعاء جعفر

معيدة المختبر : م. افتخار ثامر   م.زهراء باسم

Ohm's law

Purpose:

To verify ohm's law (the relation between I and V)

Theory:

Ohm's law :the ratio of the potential (between the points in a

conductor to a current at a given temp. Known as Resistance
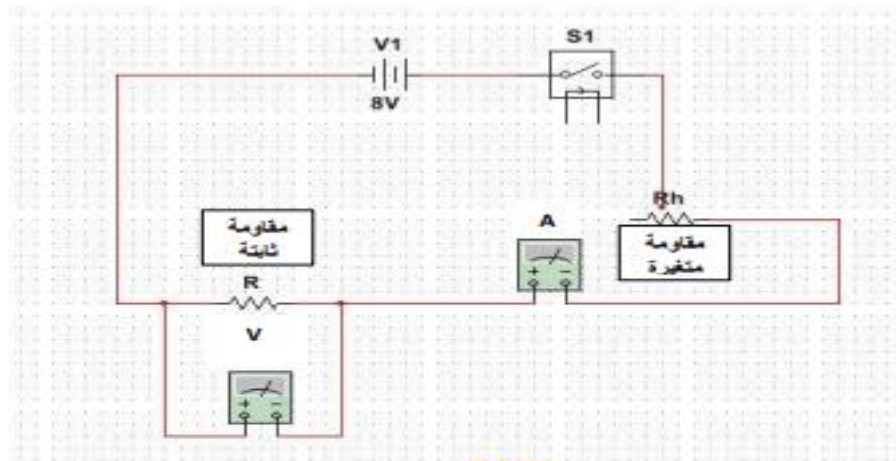
"R".

Apparatuses used :

Power supply, Ammeter , constant resistance "R" voltmeter .

Procedure:

• Connect the power supply "E" , the ammeter A the

rheostat and the constant resistance "R" in series . then

connect the voltmeter "V" in parallel with (R) as shown
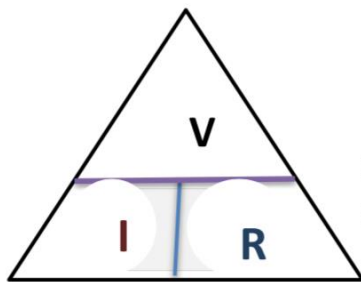
in fig

الدائرة الكهربائية

Adjust the rheostat so that the ammeter and voltmeter

are registers a convenient reading on the scale.

• Record both the reading of I of the ammeter and

voltmeter (V)
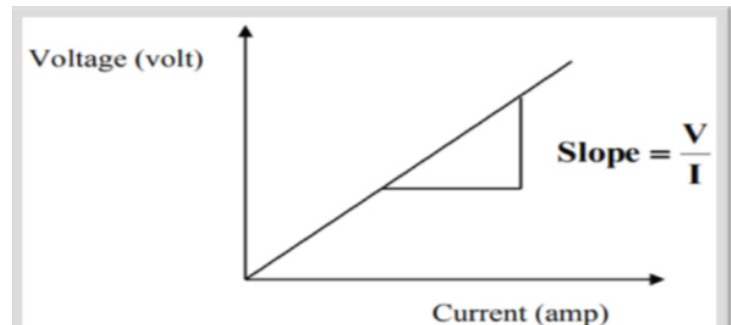
 • Tabulate the results.

V (volt)	I (amp)	R(Ω)

R(Ω)= Slope

$$R = \frac{V}{I}$$

$V = R \cdot I$

$I = V / R$

Ohm's law units are: (Ω)

$$\text{Slope} = \frac{V}{I}$$

$$V = RI + 0$$

(0.4,0.45)

(0.2,0.2)

V(volt)	I(Amps)
0.2	0.2
0.45	0.4
0.65	0.6
0.9	0.8
1.1	1
1.4	1.3
1.6	1.5
1.8	1.6
2	1.75
2.1	1.9
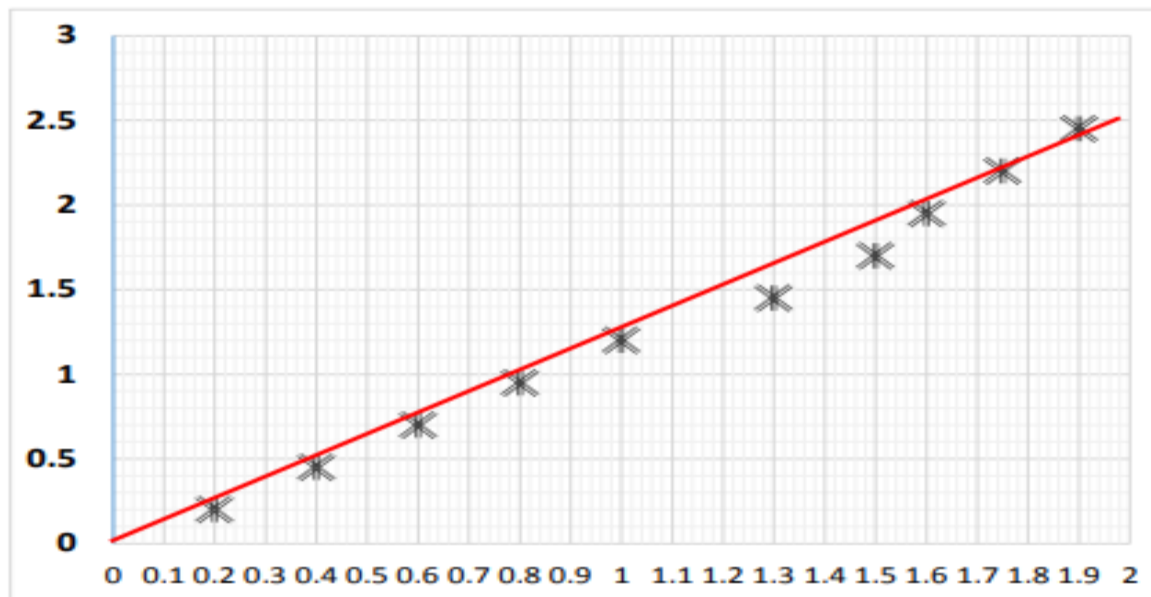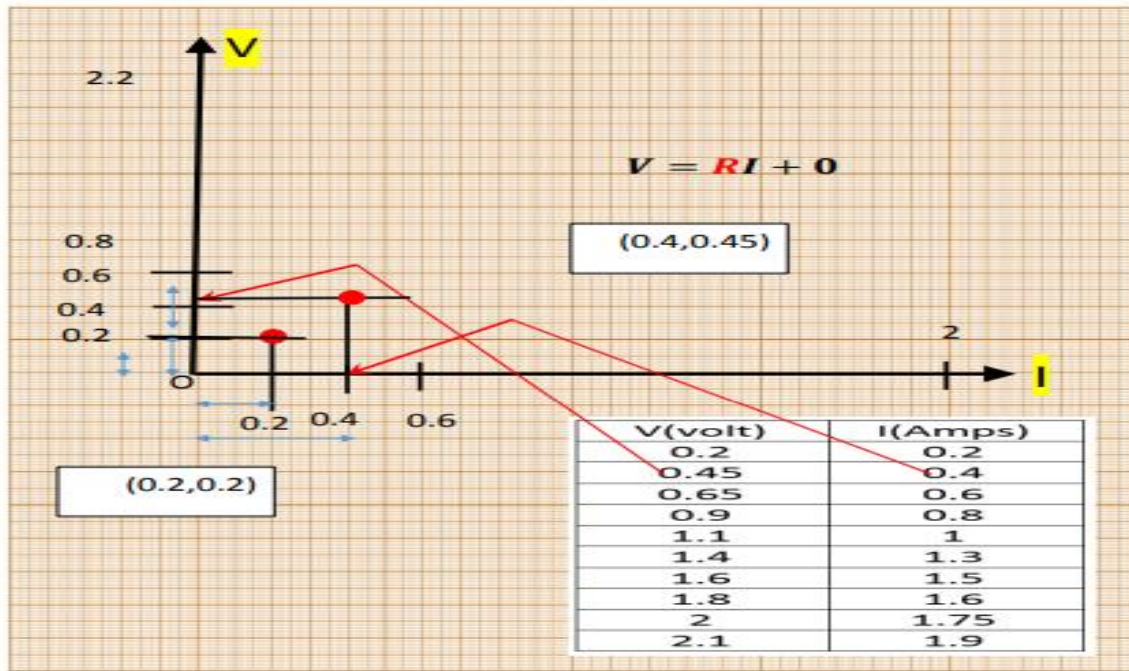
Discussion:

• Draw the relationship between V & I form table.

• Is it necessary that the relationship between V & I start with the

original point (0, 0) and why?

• What does the slopes represent in V & I relationship? Why

should the graphic be a straight line?

Q- choose the correct answer

1- What is the mathematical formula for Ohm's law?

A. R = V/C

B. R=V/ I

C. R= I/ V

D. R = V/SLOPE

2- What is the purpose of Ohm's law?

A. To verify ohm's law (the relation between I and V)

B. To verify ohm's law (the relation between R and V)

C. To verify ohm's law (the relation between R and V)

D. To verify ohm's law (the relation between R and T)

3- The slope in Ohm's law is:

A. V/ R

B. R/ V

C. V/ I

D. I/ V

4- the ratio of the potential (between the points in a conductor to

a current at a given temp. Known as Resistance "R".

a. Ohm's law :

b. power law

c. power momentum law

d. D- charge law

5- Ohm's law units are:

A. Ω

B. V

C. Ampere

D. Watt

current	التيار			المناقشة	Discussion
voltage	فولطية			ارسم	draw
Resistance	المقاومة			وضح	Explain
Ω	اوم			الجهد	potential