Mohammed Khider University of Biskra
Faculty of Science and Technology
Common Core Science and Technology
2nd year of engineering
Module : PW of fundamental electricity

Biskra on: …../……/2025

Name and surname of Grp No:
1. ……..
2. ……..
3. ……..

TP N 01 : Electrical measurements

Practical objectives:

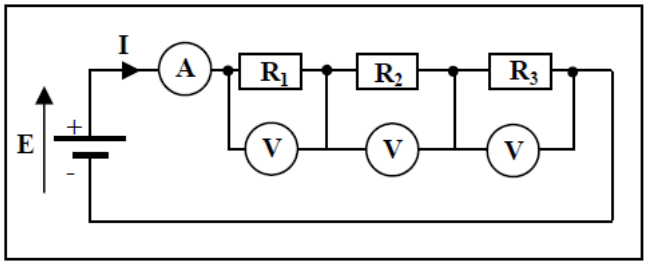
By the end of this practical, students will have acquired the following knowledge:

1. How to measure electrical voltages and currents (and others) in a circuit;
2. How to use a multimeter (voltmeter, ammeter, ohmmeter, etc.) and take safety precautions;
3. How to build an electrical circuit from a diagram.

I. Electrical circuits

❖ Series resistors

- Assemble the circuit so that R1, R2 and R3 are connected in series.
- Supply your circuit with a voltage of E=4.5V.
- Complete the table opposite.



	R_1	R_2	R_3
I(mA)			
V(Volts)			
Résistance (Ω)			

1. Using Kirchhoff's laws, calculate the current I; and the voltage across each resistor (theoretical calculation).

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Practical work N°1: Electrical measurements

	R1	R2	R3
V(volts)			

1. Compare the results (theoretical and measured)

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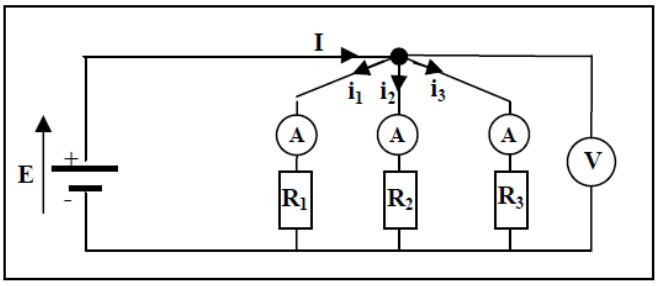
❖ Parallel resistors

- Assemble the circuit so that R1, R2 and R3 are connected in parallel.
- Supply your circuit with a voltage of E=4.5V.
- Complete the table opposite.



	R_1	R_2	R_3
I(mA)			
V(Volts)			
Résistance (Ω)			

1. According to the law of nodes, what is the total current equal to?

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❖ Mixed Circuits

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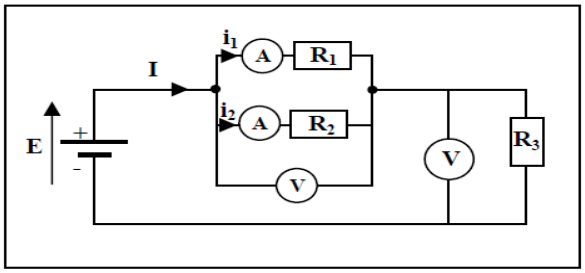
- Assemble the circuit so that R1, R2 and R3 are connected in series.
- Supply your circuit with a voltage of E=4.5V.
- Complete the table opposite.



	R_1	R_2	R_3
I(mA)			
V(Volts)			
Résistance (Ω)			

II. Conclusion

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