

تم تحميل هذا الملف من موقع المناهج الإماراتية



أسئلة مراجعة القسم الأول Simple circuits الدارات البسيطة من الوحدة الرابعة

موقع المناهج ← المناهج الإماراتية ← الصف الثاني عشر العام ← فيزياء ← الفصل الثاني ← ملفات متنوعة ← الملف

تاريخ إضافة الملف على موقع المناهج: 2024-12-19 21:27:11

ملفات اكتب للمعلم اكتب للطالب | اختبارات الكترونية | اختبارات | حلول | عروض بوربوينت | أوراق عمل
منهج انجليزي | ملخصات وتقارير | مذكرات وبنوك | الامتحان النهائي للمدرس

المزيد من مادة
فيزياء:

إعداد: محمد مسعد

التواصل الاجتماعي بحسب الصف الثاني عشر العام



الرياضيات



اللغة الانجليزية



اللغة العربية



التربية الاسلامية



المواد على تلغرام

صفحة المناهج
الإماراتية على
فيسبوك

المزيد من الملفات بحسب الصف الثاني عشر العام والمادة فيزياء في الفصل الثاني

أسئلة امتحان نهائي وزاري سابق

1

أسئلة الامتحان النهائي الورقي بريدج

2

حل تجميعية أسئلة وفق الهيكل الوزاري بريدج

3

ملخص قوانين الوحدات الرابعة والخامسة

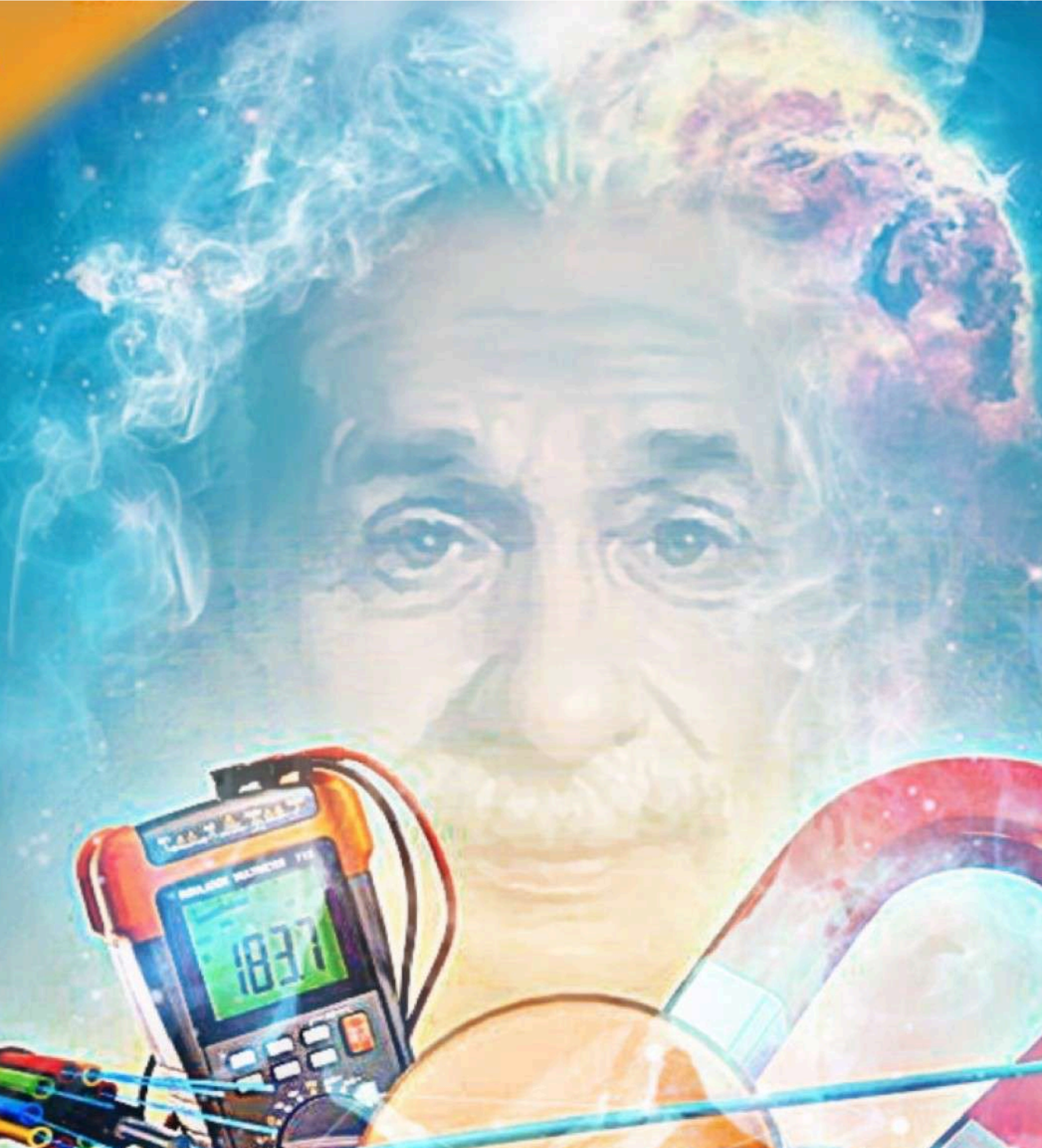
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المزيد من الملفات بحسب الصف الثاني عشر العام والمادة فيزياء في الفصل الثاني

حل مراجعة نهائية وفق الهيكل الوزاري

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2025



PHYSICS

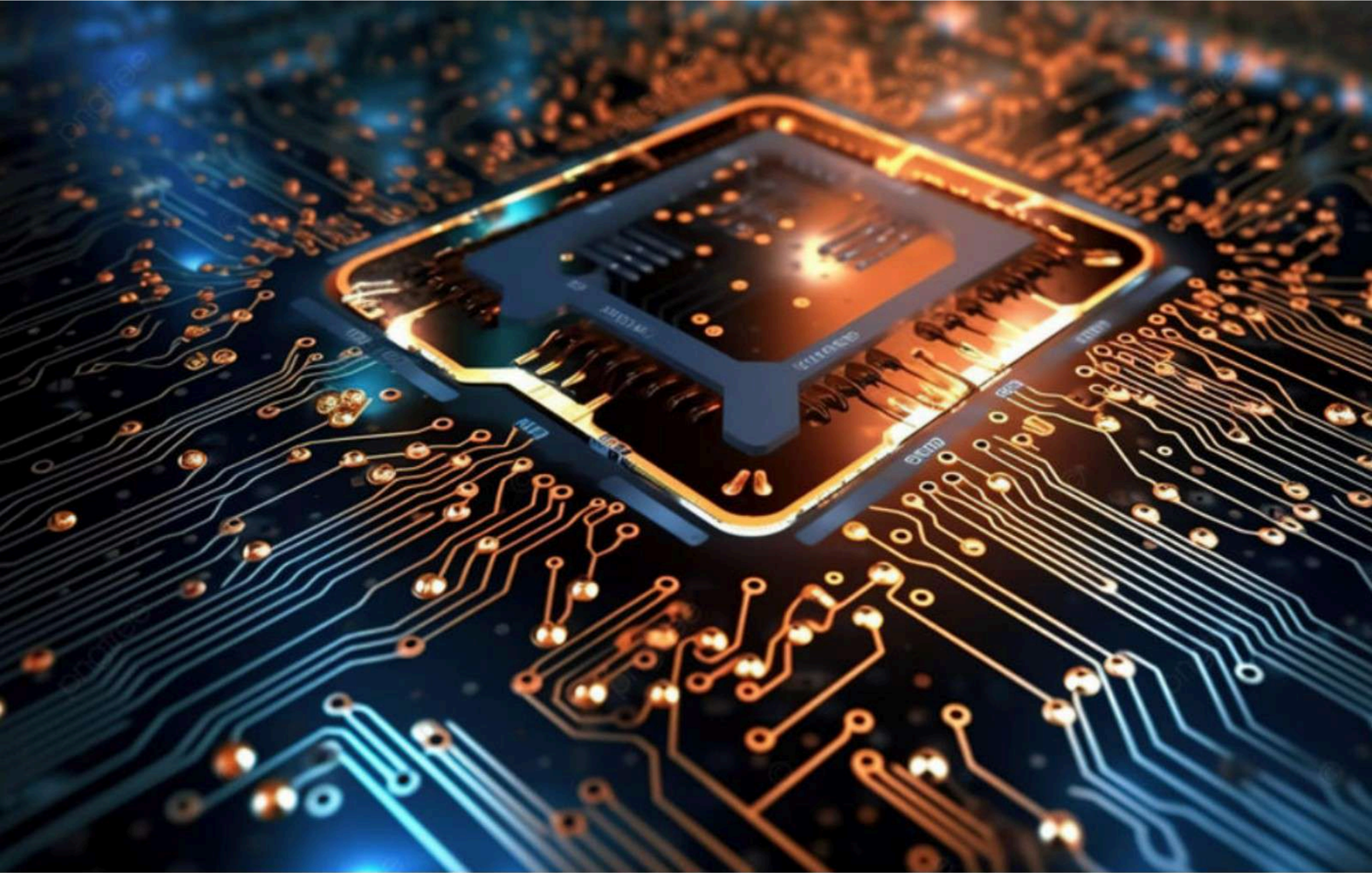
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CHAPTER

Series and Parallel Circuits

SECTIONS

1 Simple Circuits

الدوائر الكهربائية البسيطة

2 Applications of Circuits

تطبيقات الدوائر الكهربائية

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Series and Parallel Circuits

SECTION 1 Simple Circuits

4

series circuit.

It connects two resistance A and B in series

the resistance of this group will be..

- (A) Less than the total of the two resistances
- (B) greater than resistance resistance A
- (C) Less than resistance resistance b
- (D) It is not possible to specify

A $12\ \Omega$, a $15\ \Omega$, and a $5\ \Omega$ resistor are connected in a series circuit with a $75\ \text{V}$ battery. What is the **equivalent resistance** of the circuit? **What is the current** in the circuit?

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Calculate **the potential differences** across three resistors, $12\ \Omega$, $15\ \Omega$, and $5\ \Omega$, that are connected in series with a $75\ \text{V}$ battery. **Verify that the sum of their potential differences equals the potential difference across the battery.**

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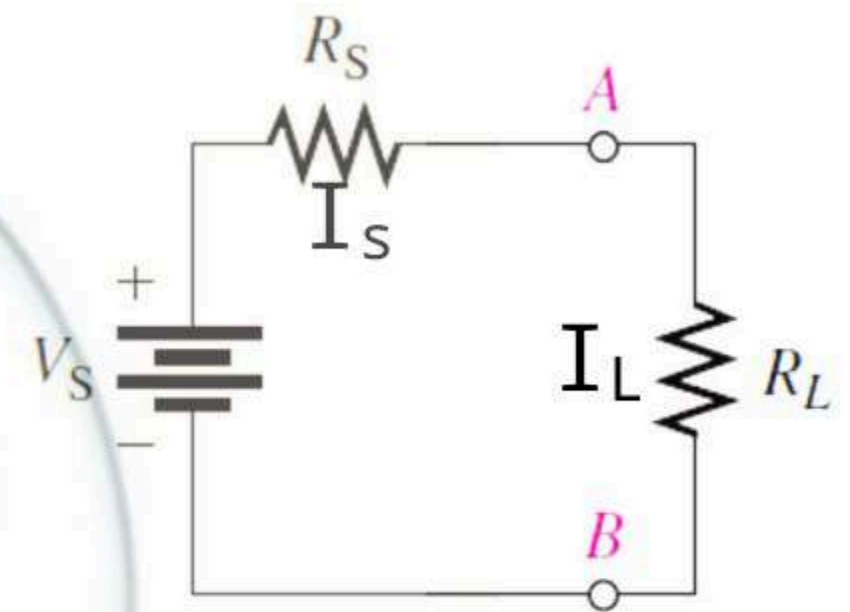
Series and Parallel Circuits

SECTION 1 Simple Circuits

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In the following figure. **Current resulting battery...**

- A) $I_T = 2 I_S$
- B) $I_T = 2 I_L$
- C) $I_T = I_S = I_L$
- D) It is not possible to specify



A 9 V battery is in a circuit with three resistors connected in series.

a. If the resistance of one of the resistors increases, how will **the equivalent resistance change?**

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b. What will happen to the current?

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c. Will there be any change in the battery voltage?

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Series and Parallel Circuits

SECTION 1 Simple Circuits

4

Three 22Ω resistors are connected in series across a 125 V generator. **What is the equivalent resistance of the circuit?**

What is the current in the circuit?

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A string of lights has ten identical bulbs with equal resistances connected in series. When the string of lights is connected to a 117 V outlet, the current through the bulbs is 0.06 A . **What is the resistance of each bulb?**

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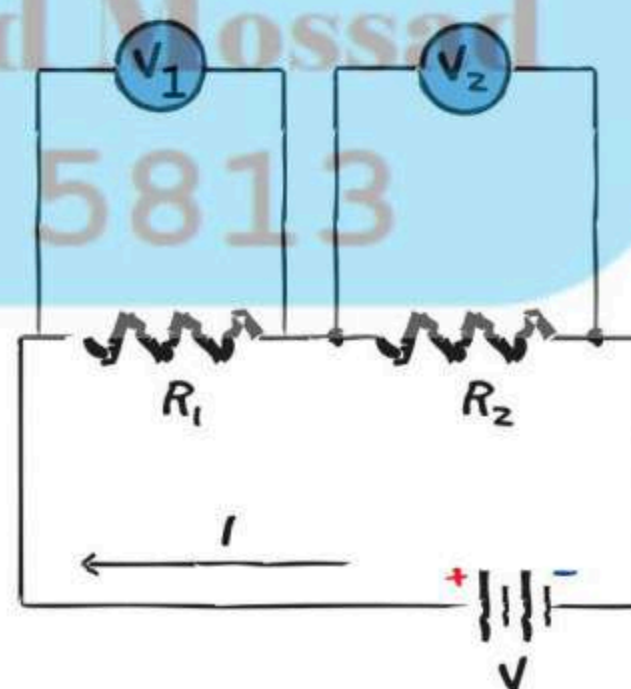
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RESISTORS IN SERIES CIRCUITS

What happens to **voltage** across a resistor in a series circuit?

- (A) $V_T = V_2$
- (B) $V_T = V_1$
- (C) $V_T = V_1 + V_2$
- (D) It is not possible to specify



Series and Parallel Circuits

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Two resistors, $47\ \Omega$ and $82\ \Omega$, are connected in series across a $45\ \text{V}$ battery.

a. What is the current in the circuit?

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b. What is the potential difference across each resistor?

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c. If you replace the $47\ \Omega$ resistor with a $39\ \Omega$ resistor, will the current increase, decrease, or remain the same?

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d. What is the new potential difference across the $82\ \Omega$ resistor?

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Series and Parallel Circuits

SECTION 1 Simple Circuits

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The circuit shown in Example 1 is producing these symptoms:
the ammeter reads 0 A,
 ΔV_1 reads 0 V, and ΔV_2 reads 45 V. **What has happened?**



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The circuit in Example Problem 1 has unequal resistors. **Explain why the resistor with the lower resistance will operate at a lower temperature.**



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SECTION 1 Simple Circuits

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Suppose the circuit shown in Example Problem 1 has these values: $R_1 = 255 \Omega$, $R_2 = 290 \Omega$, and $\Delta V_1 = 17 \text{ V}$. No other information is available.

a. What is the current in the circuit?

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b. What is the potential difference across the battery?

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c. What is the total power used in the circuit, and what is the power used in each resistor?

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d. Does the sum of the power used in each resistor in the circuit equal the total power used in the circuit? Explain.

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Series and Parallel Circuits

SECTION 1 Simple Circuits

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A series circuit is made up of a **12 V** battery and three resistors. The potential difference across one resistor is 1.2 V, and the potential difference across another resistor is 3.3 V. **What is the voltage across the third resistor?**

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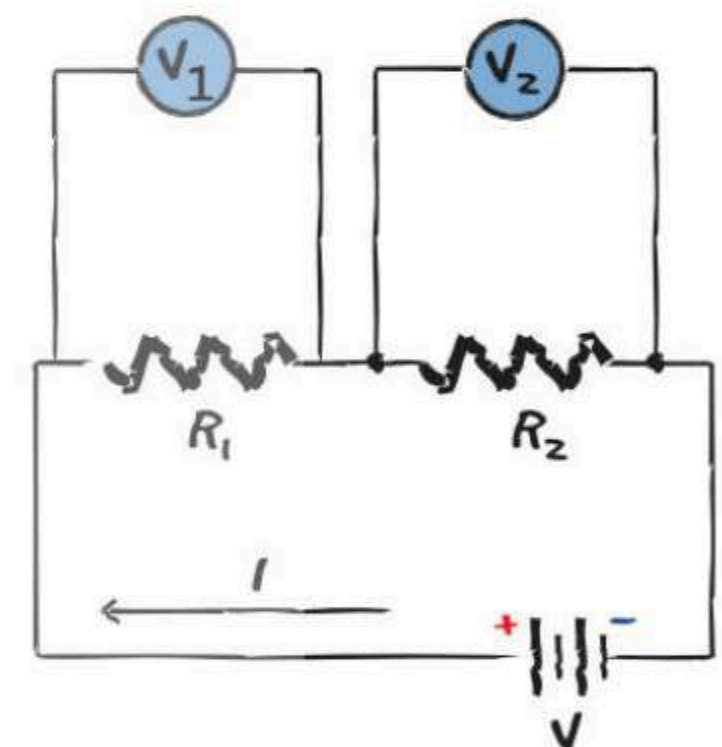
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A 9.0 V battery and two resistors, $390\ \Omega$ and $470\ \Omega$, are connected as a voltage divider. **What is the potential difference across the $470\ \Omega$ resistor?**



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**you
can
do it**

Series and Parallel Circuits

SECTION 1 Simple Circuits

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A $22\ \Omega$ resistor and a $33\ \Omega$ resistor are connected in series and are connected to a $120\ \text{V}$ power source.

a. What is the equivalent resistance of the circuit?

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b. What is the current in the circuit?

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c. What is the potential difference across each resistor?

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Three resistors of $3.3\ \text{k}\Omega$, $4.7\ \text{k}\Omega$, and $3.9\ \text{k}\Omega$ are connected in series across a $12\ \text{V}$ battery.

a. What is the equivalent resistance?

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b. What is the current through the resistors?

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c. Find the total potential difference across the three resistors.

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Parallel Circuits

Three resistors 60.0Ω , 30.0Ω , and 20.0Ω , are connected in parallel across a 90.0 V battery

a. Find the current through each branch of the circuit

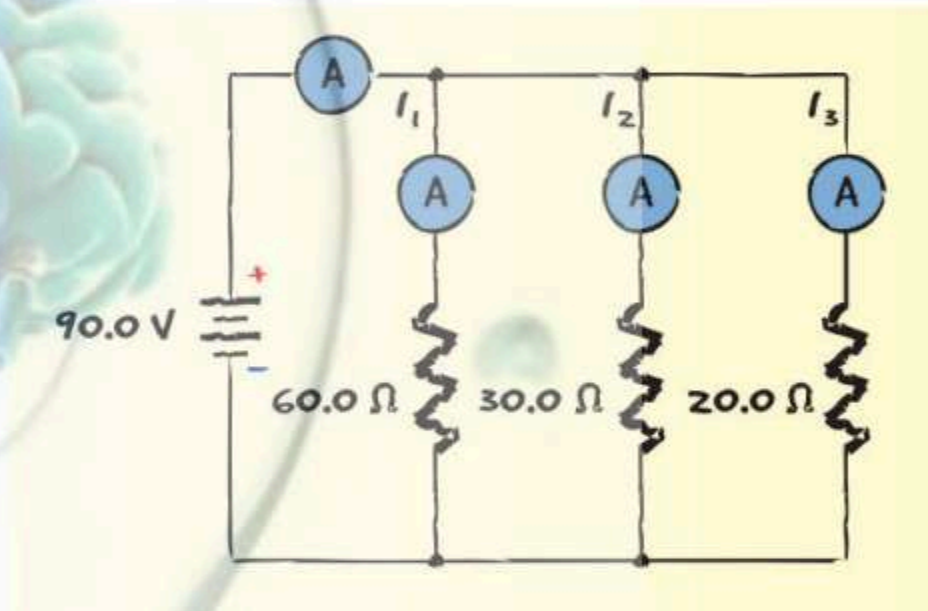
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b. Find the equivalent resistance of the circuit.

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c. Find the current through the battery.

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You connect three 15.0Ω resistors in parallel across a 30.0 V battery.

a. What is the equivalent resistance of the parallel circuit?

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b. What is the current through the entire circuit?

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c. What is the current through each branch of the circuit?

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Series and Parallel Circuits

SECTION 1 Simple Circuits

4

Suppose you replace one of the $15.0\ \Omega$ resistors in the previous problem with a $10.0\ \Omega$ resistor.

a. How does the equivalent resistance change?

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b. How does the current through the entire circuit change?

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c. How does the current through one of the $15.0\ \Omega$ resistors change?

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You connect a $120.0\ \Omega$ resistor, a $60.0\ \Omega$ resistor, and a $40.0\ \Omega$ resistor in parallel across a $12.0\ \text{V}$ battery.

a. What is the equivalent resistance of the parallel circuit?

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b. What is the current through the entire circuit?

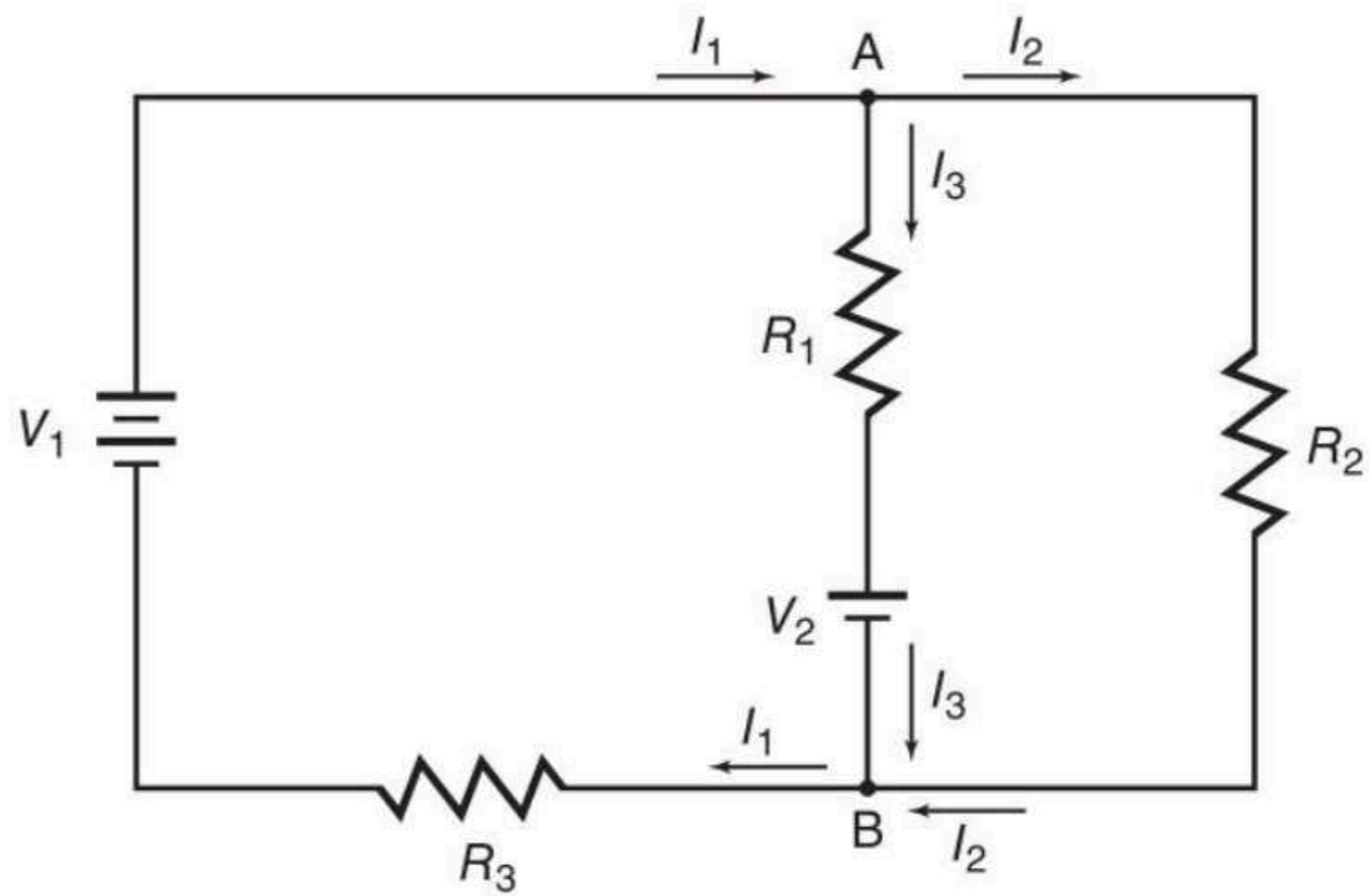
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c. What is the current through each branch of the circuit?

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Kirchhoff's Rules



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