ENGLAND GCSE COMBINED SCIENCE OCR GATEWAY FOUNDATION · UNIT 15 · 25 QUESTIONS

Electricity and Magnetism — Practice Test

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 so it can be fixed.

1 **A guitar string vibrates to make a sound. What type of wave is the sound wave?**

- A longitudinal
- B transverse
- C standing
- D electromagnetic

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2 **A tennis ball bounces. What happens to its kinetic energy?**

- A it all stays kinetic energy
- B it disappears completely
- C some becomes heat
- D it becomes light energy

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3 **A calculator runs on a small current. What is current measured in?**

A watts, the unit of power

B ohms, the unit of resistance

C volts, the unit of voltage

D amperes

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4 **A wristwatch measures time. What is the unit of time?**

A the day

B the second

C the hour

D the minute

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5 **Hardcover books are dropped. What happens to their speed as they fall?**

A it increases

B it stays the same

C it becomes zero

D it decreases

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6 **A basketball is thrown up. What happens to its speed as it rises?**

A it becomes zero

B it decreases

C it increases

D it stays the same

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7 **What does a thermistor do when its temperature rises?**

- A it stops conducting at once
- B its resistance falls
- C its resistance stays the same
- D its resistance rises

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8 **A resistor has a potential difference of 12 V across it and a resistance of 2 ohms. What is the current?**

- A 3 A
- B 12 A
- C 24 A
- D 6 A

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9 **A current of 2 A flows for 10 seconds. How much charge flows?**

- A 40 C
- B 20 C
- C 12 C
- D 10 C

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10 **A device works at 6 V with a current of 2 A. What is its power?**

- A 24 W
- B 6 W
- C 12 W
- D 22 W

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11 **A lamp runs at 12 V with a current of 4 A. What is its power?**

A 58 W

B 96 W

C 48 W

D 24 W

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12 **What happens to the total resistance when resistors are added in parallel?**

A it becomes zero

B it increases

C it stays the same

D it decreases

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13 **A current of 3 A flows for 20 seconds. How much charge flows?**

- A 30 C
- B 60 C
- C 70 C
- D 120 C

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14 **What is inside an electromagnet to make it stronger?**

- A an air core
- B an iron core
- C a wooden core
- D a copper core

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15 **What happens when two objects with the same charge are brought together?**

A they attract each other

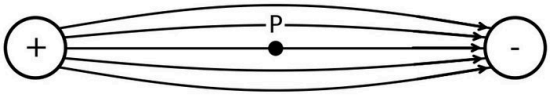
B they repel each other

C they stick together

D nothing happens at all

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16 **The diagram shows the electric field around two charges. In which direction do the field lines go?**



- **A** in circles
- **B** from negative to positive
- **C** from positive to negative
- **D** they do not have a direction

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17 **In which direction do electric field lines go around a positive charge?**

- **A** towards the charge
- **B** away from the charge
- **C** they have no direction
- **D** in circles around it

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18 **A component has a potential difference of 12 V across it and a current of 5 A through it. What is its resistance?**

- A 4.8 ohms
- B 2.4 ohms
- C 60 ohms
- D 1.2 ohms

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19 **Which of these is a magnetic material?**

- A copper
- B iron
- C aluminium
- D wood

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20 **What does a light-dependent resistor do in bright light?**

- **A** its resistance falls
- **B** its resistance stays the same
- **C** it makes its own light
- **D** its resistance rises

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21 **A resistor has a potential difference of 24 V across it and a resistance of 2 ohms. What is the current?**

- **A** 12 A
- **B** 48 A
- **C** 24 A
- **D** 6 A

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22 **A current of 3 A flows for 30 seconds. How much charge flows?**

- A 180 C
- B 33 C
- C 45 C
- D 90 C

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23 **A lamp runs at 12 V with a current of 3 A. What is its power?**

- A 18 W
- B 72 W
- C 36 W
- D 46 W

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24 **A current of 3 A flows for 60 seconds. How much charge flows?**

- A 360 C
- B 190 C
- C 180 C
- D 90 C

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25 **How can an electromagnet be made stronger?**

- A a smaller current
- B more turns on the coil
- C fewer turns on the coil
- D a wooden core

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ANSWER KEY

1. A
2. C
3. D
4. B
5. A
6. B
7. B
8. D
9. B
10. C
11. C
12. D
13. B
14. B
15. B
16. C
17. B
18. B
19. B
20. A
21. A
22. D
23. C
24. C
25. B

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