ENGLAND GCSE COMBINED SCIENCE OCR GATEWAY HIGHER · 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 tennis ball is served fast. What is its speed like?**

- A negative
- B low
- C zero
- D high

Understand It with Pulse | Flag a mistake

**2** **Hardcover books are stacked on a table. What force pulls them down?**

- A friction
- B gravity
- C air resistance
- D tension

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3 **A calculator uses a battery. What energy is stored in the battery?**

- A thermal energy from heat
- B light energy from the Sun
- C chemical energy
- D kinetic energy of motion

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

- A the second
- B the day
- C the hour
- D the minute

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5 **A guitar amplifier is connected to the mains. What is the voltage of the mains supply in the UK?**

- A 12 V
- B 50 V
- C 230 V
- D 110 V

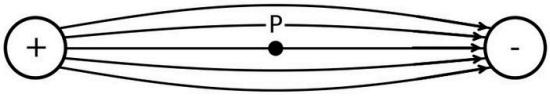
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6 **A basketball is thrown up. What happens to its speed as it rises?**

- A it stays the same
- B it increases
- C it becomes zero
- D it decreases

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




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

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

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

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9 **What happens when two objects with opposite charges are near each other?**

A they attract

B they neutralise

C nothing happens

D they repel

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10 **A diode is connected the wrong way round in a circuit. What current flows?**

A current in the opposite direction only

B a very large current

C almost none

D the same current as before

Understand It with Pulse | Flag a mistake

11 **What is electric current?**

A the flow of energy

B the flow of heat

C the flow of electrons only

D the flow of charge

Understand It with Pulse | Flag a mistake

12 **Where is an electric field strongest?**

A close to the charge

B where there is no charge

C in the middle of nowhere

D far from the charge

Understand It with Pulse | Flag a mistake

13 **What is the frequency of UK mains electricity?**

- A 50 Hz
- B 230 Hz
- C 100 Hz
- D 60 Hz

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14 **A lamp runs at 12 V with a current of 5 A. What is its power?**

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

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**15** **A device works at 12 V with a current of 2 A. What is its power?**

- **A** 34 W
- **B** 24 W
- **C** 12 W
- **D** 48 W

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**16** **A current of 2 A flows for 30 seconds. How much charge flows?**

- **A** 32 C
- **B** 60 C
- **C** 30 C
- **D** 120 C

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17 **A component has a potential difference of 6 V across it and a current of 4 A through it. What is its resistance?**

- A 1.5 ohms
- B 0.75 ohms
- C 3 ohms
- D 24 ohms

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

- A they repel each other
- B they attract each other
- C they stick together
- D nothing happens at all

Understand It with Pulse | Flag a mistake

19 **A current of 4 A flows for 10 seconds. How much charge flows?**

- A 50 C
- B 20 C
- C 80 C
- D 40 C

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20 **A resistor has a potential difference of 6 V across it and a resistance of 3 ohms. What is the current?**

- A 2 A
- B 1 A
- C 18 A
- D 4 A

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21 **What happens to the total resistance when resistors are added in series?**

A it becomes zero

B it stays the same

C it decreases

D it increases

Understand It with Pulse | Flag a mistake

22 **What is a permanent magnet?**

A a magnet that stays magnetic

B a magnet made of iron only

C a magnet that can be switched off

D a magnet that is very strong

Understand It with Pulse | Flag a mistake

23 **For a fixed resistor at constant temperature, what is the current-voltage characteristic?**

A a straight line through zero

B a curve that rises steeply then stops

C a flat line at zero current

D a curve that flattens out

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24 **What is the unit of resistance?**

A the amp

B the ohm

C the volt

D the watt

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25

## What is an electric field?

A the region where light is blocked

B the region where sound travels

C where a charge feels a force

D the region inside a magnet

Understand It with Pulse

Flag a mistake

# ANSWER KEY

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

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