ENGLAND GCSE COMBINED SCIENCE OCR TWENTY FIRST CENTURY FOUNDATION · UNIT 15 · 25 QUESTIONS

Electric Circuits — 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 calculator uses a battery. What energy is stored in the battery?**

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

Understand It with Pulse | Flag a mistake

2 **A wristwatch is used to time a race. What is speed calculated from?**

- A mass and time together
- B distance and time
- C time only, not distance
- D distance only, not time

Understand It with Pulse | Flag a mistake

3 **Glass marbles in a tray are used as a model for particles in a solid. What do the marbles show?**

- A particles flow past each other easily
- B particles are far apart from each other
- C particles vibrate in fixed positions
- D particles move freely through space

Understand It with Pulse | Flag a mistake

4 **A guitar string is tightened. What happens to the pitch?**

- A it falls
- B it disappears
- C it rises
- D it stays the same

Understand It with Pulse | Flag a mistake

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

A it stays the same

B it decreases

C it becomes zero

D it increases

Understand It with Pulse | Flag a mistake

6 **A thermometer is placed in hot water. What happens to the liquid inside the thermometer?**

A it contracts

B it freezes

C it evaporates

D it expands

Understand It with Pulse | Flag a mistake

7 **How does an antistatic mat stop a build-up of charge?**

A charge flows away

B it heats the charge away

C it insulates the worker

D it makes more charge

Understand It with Pulse | Flag a mistake

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

A aluminium

B copper

C iron

D wood

Understand It with Pulse | Flag a mistake

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

- A almost none
- B the same current as before
- C current in the opposite direction only
- D a very large current

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

A the ohm

B the watt

C the amp

D the volt

Understand It with Pulse | Flag a mistake

12 **A current of 4 A flows for 60 seconds. How much charge flows?**

A 120 C

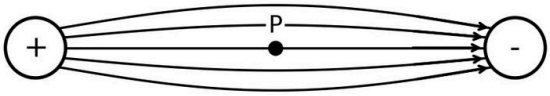
B 480 C

C 240 C

D 64 C

Understand It with Pulse | Flag a mistake

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



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

Understand It with Pulse | Flag a mistake

14 **A device works at 230 V with a current of 5 A. What is its power?**

- **A** 575 W
- **B** 2300 W
- **C** 1160 W
- **D** 1150 W

Understand It with Pulse | Flag a mistake

15 **What colour is the neutral wire in a plug?**

- A green and yellow
- B red
- C brown
- D blue

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

18 **A lamp runs at 12 V with a current of 2 A. What is its power?**

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

Understand It with Pulse | Flag a mistake

19 **A component has a potential difference of 10 V across it and a current of 5 A through it. What is its resistance?**

- A 2 ohms
- B 4 ohms
- C 1 ohms
- D 50 ohms

Understand It with Pulse | Flag a mistake

20 **What happens when a plastic rod is rubbed with a cloth?**

- A the rod loses all its charge
- B neutrons move onto the rod
- C protons move onto the rod
- D electrons move onto the rod

Understand It with Pulse | Flag a mistake

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

A it decreases

B it stays the same

C it becomes zero

D it increases

Understand It with Pulse | Flag a mistake

22 **What is a permanent magnet?**

A a magnet made of iron only

B a magnet that stays magnetic

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 curve that rises steeply then stops
- **B** a flat line at zero current
- **C** a curve that flattens out
- **D** a straight line through zero

Understand It with Pulse | Flag a mistake

24 **A current of 2 A flows for 60 seconds. How much charge flows?**

- **A** 240 C
- **B** 120 C
- **C** 130 C
- **D** 60 C

Understand It with Pulse | Flag a mistake

25 **A current of 5 A flows for 30 seconds. How much charge flows?**

- A 150 C
- B 75 C
- C 300 C
- D 35 C

Understand It with Pulse | Flag a mistake

ANSWER KEY

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

© 2026 Brett Robbins. All Rights Reserved.