ENGLAND GCSE PHYSICS OCR TWENTY FIRST CENTURY HIGHER · UNIT 3 · 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 to let Brett know so he can fix it.

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

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

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

A transverse

B longitudinal

C standing

D electromagnetic

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

A it contracts

B it evaporates

C it freezes

D it expands

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4 **Hardcover books have mass. What is mass measured in?**

- A kilograms
- B newtons, the unit of force
- C watts
- D joules

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

- A volts, the unit of voltage
- B ohms, the unit of resistance
- C watts, the unit of power
- D amperes

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

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

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

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

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8 **What happens when two north poles are brought together?**

A they neutralise

B they repel

C nothing happens

D they attract

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9 **In Fleming's left-hand rule, what does the thumb show?**

A the motion

B the field

C the current

D the force

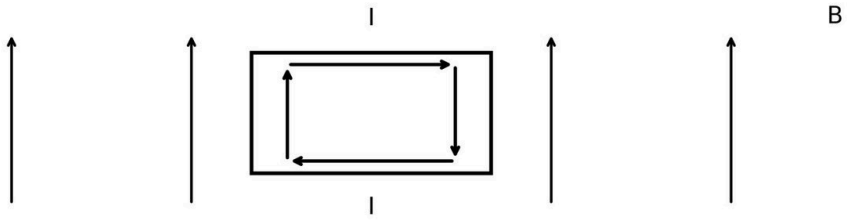
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10 **A device works at 12 V with a current of 2 A. What is its power?**

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

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11 **The diagram shows a coil in a magnetic field with a current through it. What happens to the coil?**



- **A** it stays still
- **B** it turns
- **C** it heats up
- **D** it moves sideways

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12 **What happens to the force if the current in the wire is reversed?**

A it reverses too

B it stays the same

C it doubles

D it disappears

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13 **Two 4 ohm resistors are in series. What is the total resistance?**

A 16 ohms

B 8 ohms

C 4 ohms

D 2 ohms

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14 **A transformer has 200 turns on the primary coil and 50 turns on the secondary coil. What is the turns ratio?**

- A 8
- B 3
- C 5
- D 4

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15 **A small positive charge is placed in an electric field. Which way does the force on it point?**

- A at right angles to the field
- B there is no force on it
- C against the field lines
- D along the field lines

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16 **What happens to the field lines where two like charges are close?**

- A they disappear
- B they join together
- C they push apart
- D they form circles

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17 **Why does a bicycle dynamo light get brighter when the cyclist pedals faster?**

- A the wires get shorter
- B the coil turns faster
- C the bulb gets hotter
- D the magnet gets stronger

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

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

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

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

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20 **What colour is the live wire in a plug?**

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

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21 **A microphone and a loudspeaker both use a coil in a magnetic field. How do they differ?**

- A one uses light and the other uses heat
- B one needs no magnet at all
- C they work in exactly the same way
- D sound to current, current to sound

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22 **A lamp runs at 6 V with a current of 4 A. What is its power?**

A 12 W

B 48 W

C 24 W

D 34 W

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23 **A balloon rubbed on hair sticks to a wall. Why?**

A the wall is magnetic

B the hair makes it sticky

C it charges the wall

D the balloon is wet

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

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

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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

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ANSWER KEY

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

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