ENGLAND GCSE PHYSICS EDEXCEL HIGHER · UNIT 12 · 25 QUESTIONS

Magnetism and the Motor Effect — 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 **Hardcover books are dropped. What happens to their speed as they fall?**

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

Understand It with Pulse | Flag a mistake

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

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

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3 **A calculator is switched on. What does the battery transfer energy to?**

- A the screen only
- B the buttons only
- C the circuits
- D the case

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4 **A passenger train carries people around the country. Which part of the blood is like the train, carrying oxygen around the body?**

- A plasma
- B white blood cells
- C platelets
- D red blood cells

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5 **A yellow school bus is full of children. What is its mass like?**

- A smaller than when empty
- B larger than when empty
- C zero
- D the same as when empty

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6 **A passenger aeroplane takes off. Which force lifts it up?**

- A drag
- B thrust
- C weight
- D lift

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

- A they attract
- B nothing happens
- C they repel
- D they neutralise

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8

What is a permanent magnet?

A a magnet that loses its magnetism at once

B a magnet that only works when switched on

C a magnet that keeps its magnetism

D a piece of iron with no magnetism

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9

How can the field of a solenoid be made stronger?

A by increasing the current

B by switching the current off

C by using fewer turns on the coil

D by using a steel core instead of iron

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10 **Why is soft iron used in an electromagnet?**

- **A** it is stronger than steel when magnetised
- **B** it stays magnetic for ever after use
- **C** it does not conduct electricity
- **D** it loses its magnetism quickly

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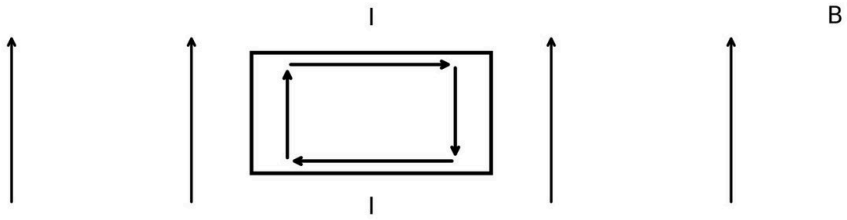
11 **The diagram shows a coil in a magnetic field with a current through it. What happens to the coil?**



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

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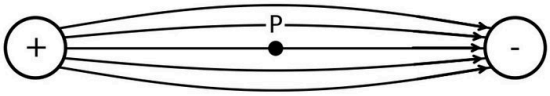
12 **The diagram shows the electric field around two charges. In which direction do the field lines go?**



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

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

- **A** the current direction
- **B** the field direction
- **C** the wire direction
- **D** the force direction

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14 **Why does a coil in a motor keep turning?**

- A the coil gets hotter
- B the magnet flips over, north to south
- C it reverses the current
- D the battery runs down

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15 **What is the magnetic field around a magnet?**

- A the poles at the ends of the magnet
- B the region where its force acts
- C the metal the magnet is made from
- D the region where light is bent by the magnet

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16 **How can the force on a wire be increased?**

- A a shorter wire
- B a smaller current
- C a larger current
- D a weaker field

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17 **What does a solenoid with an iron core become?**

- A an electromagnet
- B a motor that spins around
- C a generator making electricity
- D a permanent magnet made of steel

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18 **What is at the centre of an electromagnet?**

A a copper core, which is not magnetic

B a steel core, which stays magnetic

C an empty space with no core

D a soft iron core

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19 **What is the motor effect?**

A a force on a magnet with no current

B a force on a wire with no field

C a force on a current in a field

D a force that only works in space

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

- A it disappears
- B it reverses too
- C it doubles
- D it stays the same

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

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

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

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

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23 **What is an electromagnet?**

- **A** a piece of iron with no coil
- **B** a permanent magnet made of steel
- **C** a magnet that works without any current
- **D** a magnet made by a current

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24 **Why does a motor need a magnetic field?**

- A it pushes on the current
- B the field makes the coil heavier
- C the field cools the coil
- D the field charges the battery

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25 **In Fleming's left-hand rule, what does the second finger show?**

- A the force, pushing on the wire
- B the current
- C the motion of the wire itself
- D the field, going from north to south

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ANSWER KEY

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

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