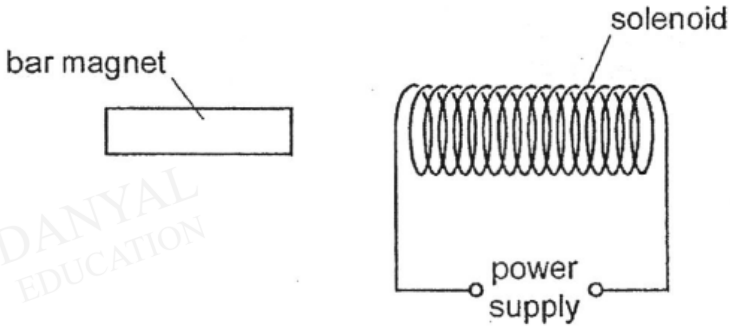
O Level Combined Physics MCQs

Electromagnetism Test 2.0

Q1

A solenoid carrying a current is used to demagnetise a bar magnet.

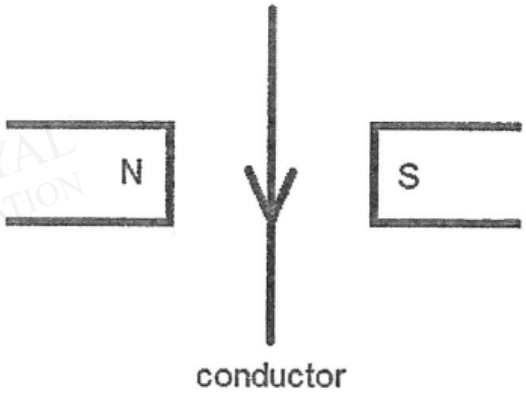


Which conditions achieve demagnetisation?

	current through solenoid	movement of bar magnet
A	a.c.	around the solenoid quickly
B	a.c.	through the solenoid slowly
C	d.c.	around the solenoid quickly
D	d.c.	through the solenoid slowly

Q2

The diagram below shows a current in a conductor in a magnetic field.

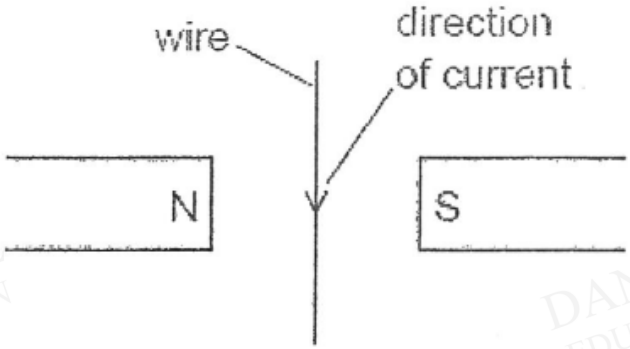


What is the direction of the force on the conductor?

A into the page
B out of the page
C towards the bottom of the page
D towards the top of the page

Q3

A current-carrying wire lies between the poles of two magnets as shown in the diagram below.



What is the direction of the force on the wire?

A into the plane of the paper

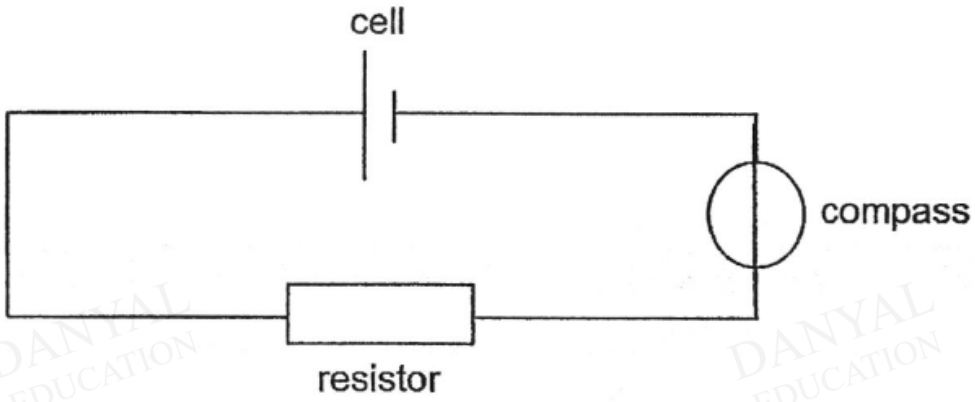
B out of the plane of the paper

C towards the N-pole

D towards the S-pole

Q4

The diagram shows a compass placed below a current carrying wire.

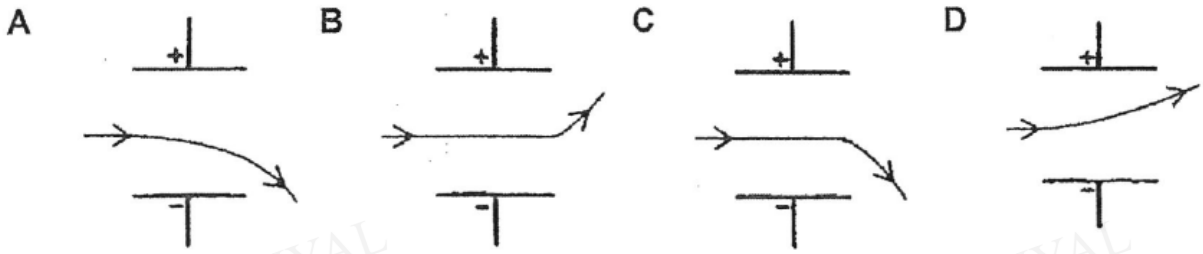


At which direction will the compass point towards? Ignore effects of the Earth's magnetic field.

A **B** **C** **D**

Q5

The diagrams below show paths taken by electrons. Name the diagram that shows the correct path taken by the electrons when they pass between a pair of charged deflection plates.



Q6

Fig. 20.1 shows a plotting compass placed above a current carrying wire.

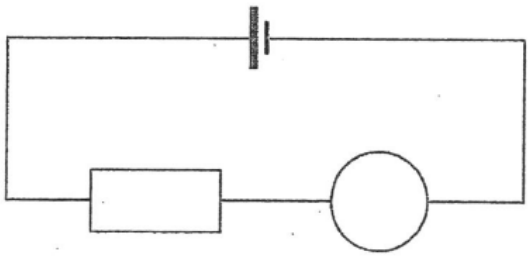
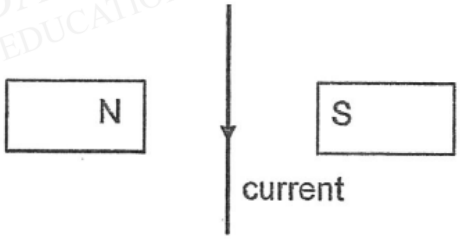


Fig. 20.1

Ignoring effects of the Earth's magnetic field, which of the following shows the direction which the compass needle will point towards?

Q7

The diagram shows a current-carrying wire placed vertically between two magnets.



What is the direction of the force on the wire caused by the magnets?

A. out of the page
B. into the page
C. to the left
D. to the right

Q8

Two wires are placed close to each other. Currents in different directions are passed along the wires as shown in Fig. 20

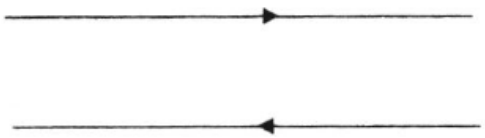


Fig. 20

Which of the following statements is correct?

A The wires move closer as the electric field they generate are of opposite charges.

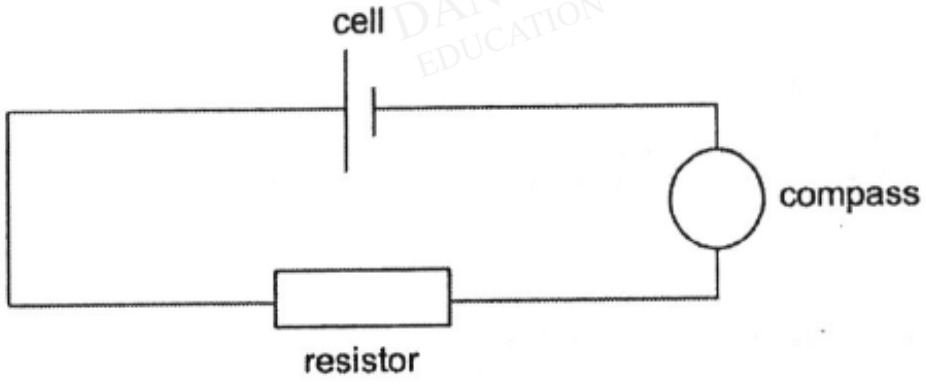
B The wires move away from each other as the magnetic fields they generate interact with each other.

C The wires move away from each other as both wires start to become the same type of magnetic pole.

D The wires move closer to each other as forces are induced when a current flows in a magnetic field.

Q9

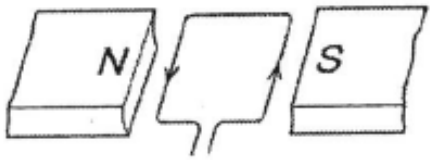
The diagram shows a compass placed above a current carrying wire.



At which direction will the compass point towards? Ignore effects of the Earth's magnetic field.

Q10

A rectangular coil is placed between the poles of a magnet. A current passes through the coil, as shown.



What happens to the coil?

A It moves upwards.

B It moves downwards.

C It rotates clockwise.

D It rotates anticlockwise.

Answers

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Q1 B

Q2 B

Q3 B

Q4 D

Q5 D

Q6 D

Q7 A

Q8 B

Q9 B

Q10 C