

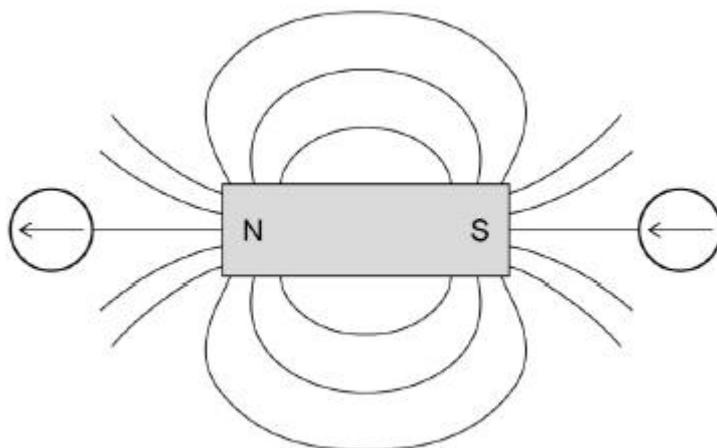
Mark schemes

Q1.

(a) cobalt

1

(b)



2 arrows pointing left

allow 1 mark for 1 correct arrow

2

(c) A

1

(d) S-S

1

(e) switching the current on / off

1

causes the compass needle to move

OR

moving the compass (around the wire) (1)

changes the direction of the compass needle (1)

MP2 dependent on MP1

1

(f) decreases

1

(g) it reverses (direction)

allow it changes direction

allow it goes clockwise

1

[9]

Q2.

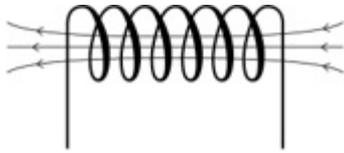
(a) direction (of the magnetic field)

1

(b) increase the current in the wire

1

(c)



1

(d) **D A B C***allow 1 mark for D B A C*

2

(e) decrease the distance between the electromagnet and the iron arm

1

(f) $\text{period} = \frac{1}{6.25}$

1

period = 0.16 (s)

1

(g) **B**

1

[9]

Q3.

(a) all ticks correct

	Attract	Repel
	✓	
	✓	
		✓
		✓

allow 1 mark for 3 correct ticks

2

(b) the magnetic field gets weaker further from the magnet

1

the magnetic field is strongest at the poles

1

(c) iron

1

(d) coil

1

(e) the magnetic field would be stronger

1

(f) the magnetic field would be weaker

1

[8]