

Name of the Student: _____

Max. Marks : 24 Marks

Time : 24 Minutes

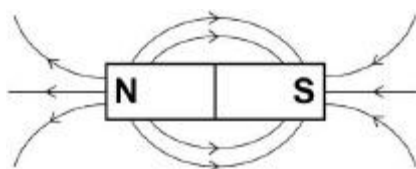
Mark Schemes

Q1.

(a) iron is magnetic 1

(b) correct pattern of field lines 1

arrows on field lines away from N and towards S



1

(c) they are opposite poles 1

(d) they line up with the Earth's magnetic field
allow they all point north 1

(e) circular 1

(f) a control 1

(g) 3.6 (N) 1

(h) (the force) decreases 1

[9]

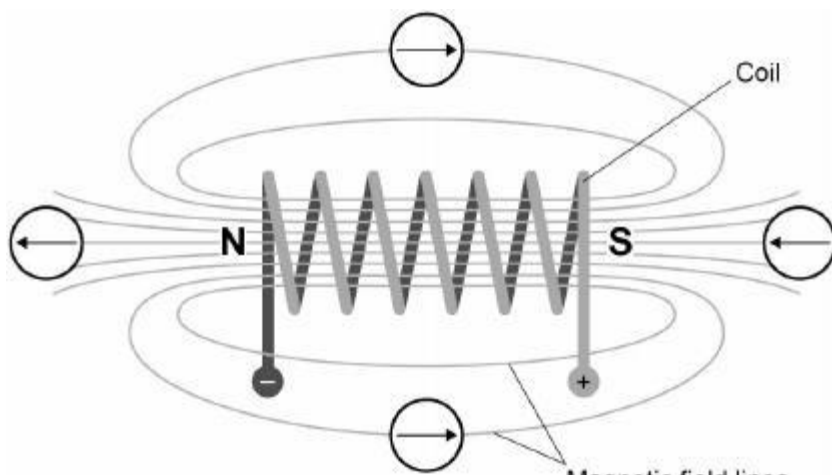
Q2.

(a) the Earth has a magnetic field 1

(b) steel 1

(c) the field is strongest at the ends of the coil 1

(d) all arrows in the correct direction



allow 1 mark for 2 or 3 arrows in the correct direction

2

(e) any **two** from:

- increase the current

allow increase potential difference

- insert an iron core
- increase the number of turns

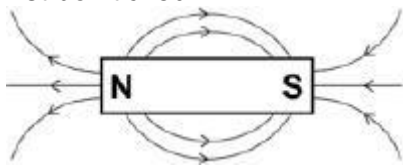
allow turns closer together

2

[7]

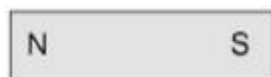
Q3.

(a) first box ticked



1

(b)



1

(c) the iron bar experiences a magnetic force of attraction

1

(d) nickel

1

steel

1

(e) an electromagnet can be switched on and off

1

(f) the iron nail makes the magnetic field stronger

1

(g) use a greater current

1

[8]