Magnetism – 2023 IGCSE Physics 0625

1. Nov/2023/Paper_ 0625/11/No.24

Which metal could be used for a permanent magnet and which metal could be used for the core of an electromagnet?

	permanent magnet	core of electromagnet
A	iron	copper
B	iron	steel
C	steel	copper
D	steel	iron

2. Nov/2023/Paper_ 0625/12/No.24

A hard magnetic material can be used to make a permanent magnet.

A soft magnetic material can be used to make a temporary magnet.

Which row shows whether iron and steel are hard or soft magnetic materials?

	iron	steel
A	hard	hard
B	hard	soft
C	soft	hard
D	soft	soft

3. Nov/2023/Paper_ 0625/13/No.24

A sound is produced and an echo is heard after the sound reflects off a wall.

How do the properties of the echo compare to the original sound wave?

	amplitude	frequency	speed
A	lower	lower	lower
B	lower	same	same
C	same	lower	lower
D	same	same	same

4. Nov/2023/Paper_ 0625/21/No.24

Which metal could be used for a permanent magnet and which metal could be used for the core of an electromagnet?

	permanent magnet	core of electromagnet
A	iron	copper
B	iron	steel
C	steel	copper
D	steel	iron

5. Nov/2023/Paper_ 0625/22/No.24

A hard magnetic material can be used to make a permanent magnet.

A soft magnetic material can be used to make a temporary magnet.

Which row shows whether iron and steel are hard or soft magnetic materials?

	iron	steel
A	hard	hard
B	hard	soft
C	soft	hard
D	soft	soft

6. Nov/2023/Paper_ 0625/23/No.24

Which metal can be attracted by a magnet?

A zinc

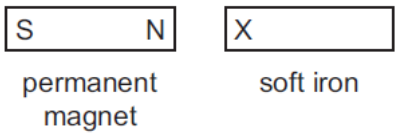
B lead

C iron

D copper

7. June/2023/Paper_0625/11/No.23

An unmagnetised piece of soft iron is placed close to a strong permanent magnet, as shown.



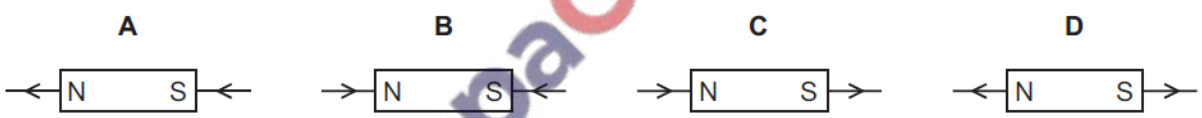
What is the induced polarity of end X of the soft iron and in which direction does the magnetic force act on the soft iron?

	polarity of end X	direction of force on the soft iron
A	N	to the left
B	N	to the right
C	S	to the left
D	S	to the right

8. June/2023/Paper_0625/12/No.23

The magnetic field of a bar magnet can be represented by magnetic field lines.

Which diagram shows two magnetic field lines correctly?



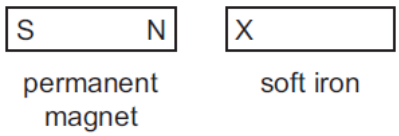
9. June/2023/Paper_0625/13/No.23

Which row gives the metal used to make the core of an electromagnet and one property of the electromagnet?

	metal	property
A	iron	permanent magnet
B	iron	temporary magnet
C	steel	permanent magnet
D	steel	temporary magnet

10. June/2023/Paper_0625/21/No.23

An unmagnetised piece of soft iron is placed close to a strong permanent magnet, as shown.



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11. June/2023/Paper_0625/22/No.23

The magnetic field of a bar magnet can be represented by magnetic field lines.

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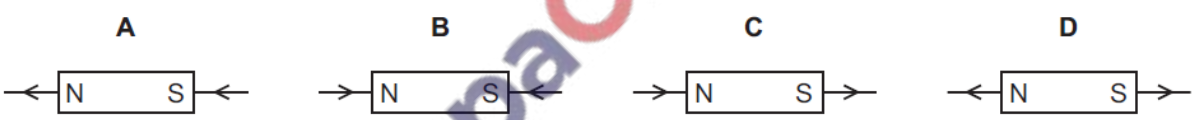

12. June/2023/Paper_0625/23/No.23

Which row gives the metal used to make the core of an electromagnet and one property of the electromagnet?

	metal	property
A	iron	permanent magnet
B	iron	temporary magnet
C	steel	permanent magnet
D	steel	temporary magnet

13. June/2023/Paper_0625/31/No.8

Fig. 8.1 shows the magnetic field pattern around two permanent magnets. The magnets are repelling each other.

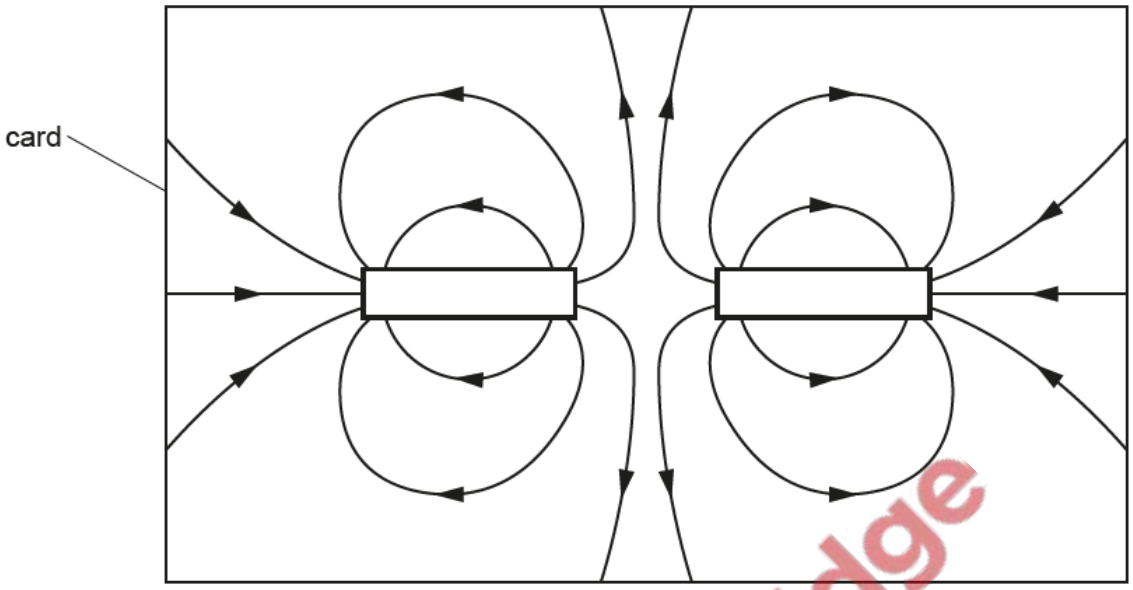

Fig. 8.1

(a) On Fig. 8.1, label both the poles on **each** magnet. [1]

(b) Describe how to plot the shape and direction of the magnetic field pattern shown in Fig. 8.1.

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..... [4]

[Total: 5]

14. June/2023/Paper_0625/32/No.7(a)

A student uses a permanent magnet to lift some unmagnetised nails. Some of the nails are made of iron and some are made of steel. Fig. 7.1 shows the magnet lifting the nails.

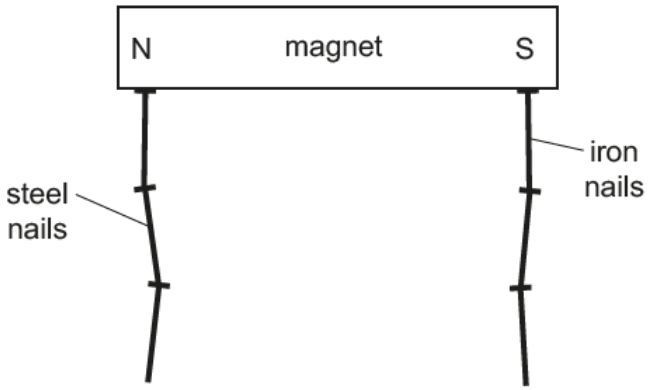

Fig. 7.1

(a) (i) Each nail lifts the nail below it by induced magnetism.

Describe what is meant by induced magnetism.

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..... [2]

(ii) The student leaves the nails attached to the magnet for several hours, then removes the magnet.

State a difference between a magnetic property of the iron nails and of the steel nails.

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..... [1]

15. June/2023/Paper_0625/42/No.8(a)

(a) (i) State what is meant by a magnetic field.

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..... [1]

(ii) Define the direction of a magnetic field.

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..... [1]