

NAME
SCHOOL

INDEX NUMBER
DATE

MAGNETISM

1. 1995 Q15 P1

Give a reason why attraction in magnesium is not regarded as a reliable method of testing for polarity. (1 mark)

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2. 1996 Q2 P2

(a) Given a bar magnet, an iron bar and a string

i) Describe a simple experiment to distinguish between the magnet and the iron bar (4 marks)

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ii) State with reasons the observation that would be made in the experiment. (4 marks)

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(b) In an experiment to magnetize two substances P and Q using electric current, two curves (graphs) were obtained as shown in figure 1

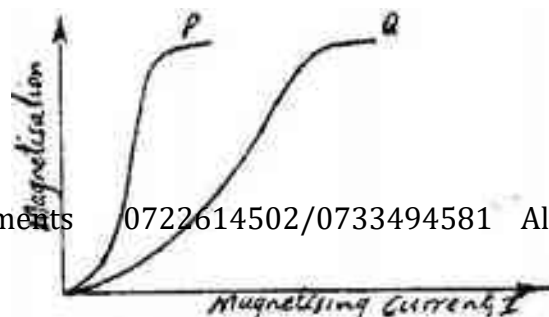


Fig. 1

Using the information in Fig 1 explain the difference between the substances P and Q with references to the domain theory (6 marks)

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3. 1997 Q14 P1
Distinguish between soft and hard magnetic materials

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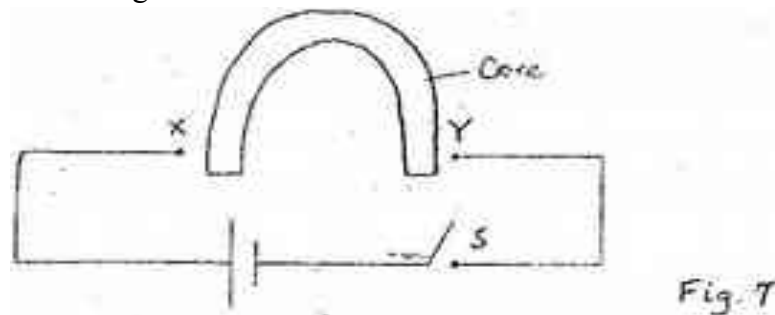
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4. 1997 Q16 P1
Figure 7 shows an incomplete circuit of an electromagnet. Complete the circuit between X and Y drawing the windings on the two arms of the core such that A and B are both North poles when switch S is closed. Indicate the direction of the current on the windings drawn.



5. 1997 Q5a, b P2
(a) State two factors that affect the strength of an electromagnet.

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(b) In the set up in figure 5, the suspended metre rule is in equilibrium balanced by the magnet and the weight shown. The iron core is fixed to the bench.

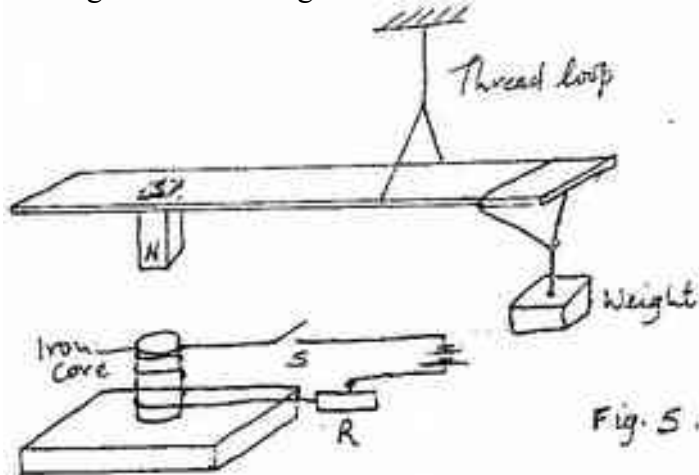


Fig. 5.

(i) State and explain the effect on metre rule when the switch S is closed

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(ii) What would be the effect of reversing the battery terminals

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(iii) Suggest how the set up in figure 5 can be adapted to measure the current flowing in the current circuit.

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6. 1998 Q14 P1

Explain how hammering demagnetizes a magnet

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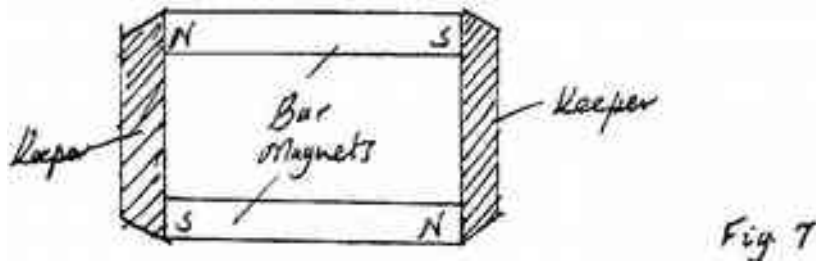
7. 1999 Q12 P1

How can it be shown that the strength of a magnet is concentrated at the poles?

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8. 2000 Q12 P1

Fig. 7 shows how magnets are stored in pairs with keepers at the ends

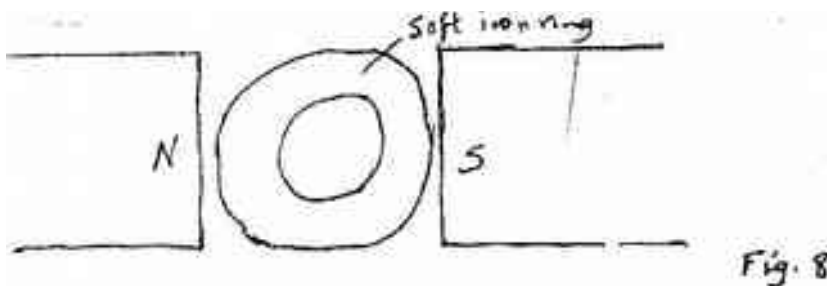


Explain how this method of storing helps in retaining magnetism longer.

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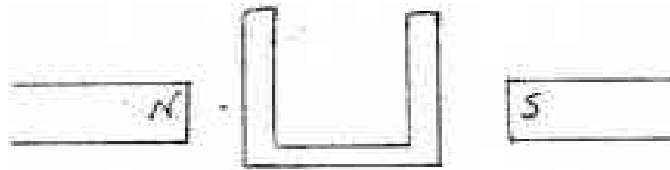
9. 2001 Q11 P1

Fig 8 shows a soft-iron ring placed between the poles of a magnet. On the same diagram sketch the magnetic field pattern.



10. 2002 Q11 P1

Fig. 6 shows a soft iron placed between poles of two magnets.
Figure 6



Sketch the magnetic field pattern.

11. 2003 Q12 P1

Figure 8 shows a bar of soft iron placed near a magnet.



Figure 8

On the same diagram, sketch the magnetic field pattern due to the set up

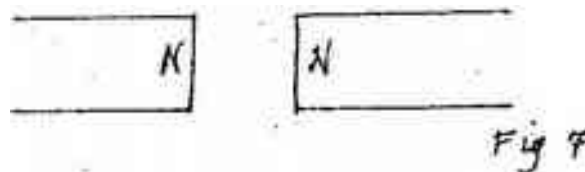
12. 2003 Q13 P1

Give a reason why the core of the electromagnet of an electric bell is made of soft iron and not steel.

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13. 2004 Q11 P1

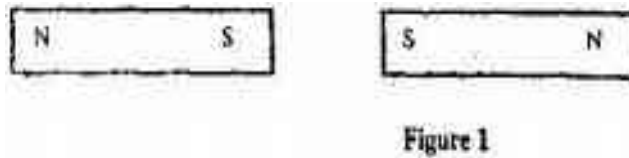
Figure 7 shows the poles of two magnets close together.



Sketch the magnetic field pattern in the space between the poles.

14. 2006 Q1 P2

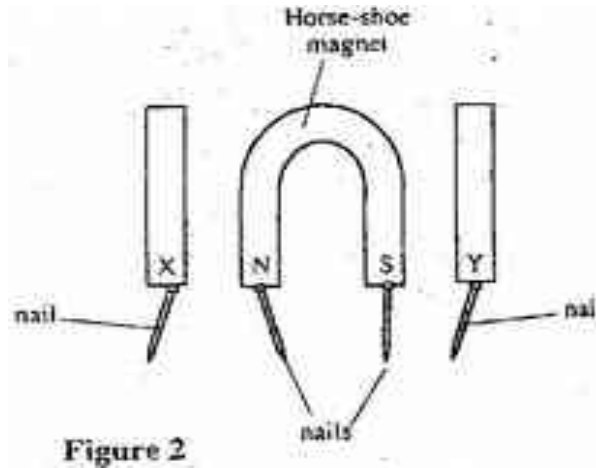
Figure 1 shows two bar magnets placed with the south poles close together



In figure 1 sketch the magnetic field pattern between the two south poles (1 mark)

15. 2007 Q3 P2

Figure 2 shows a horse –shoe magnet whose poles are labelled and two other magnets near it. Iron nails are attracted to the lower ends of the magnets as shown.



Identify the poles marked X and Y (1 mark)

X.....

Y.....

16. 2008 Q4 P2

An un-magnetized steel rod is clamped facing North-South direction and then hammered repeatedly for some time. When tested, it is found to be magnetized. Explain this observation. (2 marks)

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17. 2010 Q2 P2

Figure 2(a), shows a magnetic compass placed under a horizontal wire XY

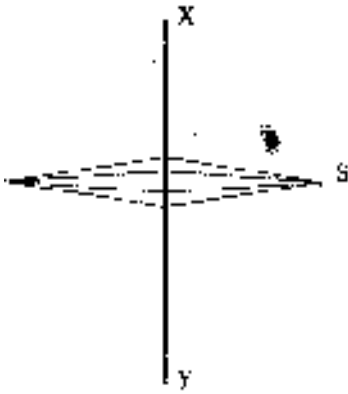


Figure 2(a)



Figure 2(b)

A large current is passed from X to Y. Draw the final position of the magnetic compass needle in figure

18. 2011 Q6 P2

One method of producing a weak magnet is to hold a steel rod in the North South direction and then hammer it continuously for sometime. Using the domain theory of magnetism explain how this method works.

(2 marks)

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