Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic : 12_Magnetism and the motor effect

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Name of the Student:_____
Max. Marks : 17 Marks **Time : 17 Minutes**

Q1.

A student investigates magnetism using two toys as shown in Figure 14.

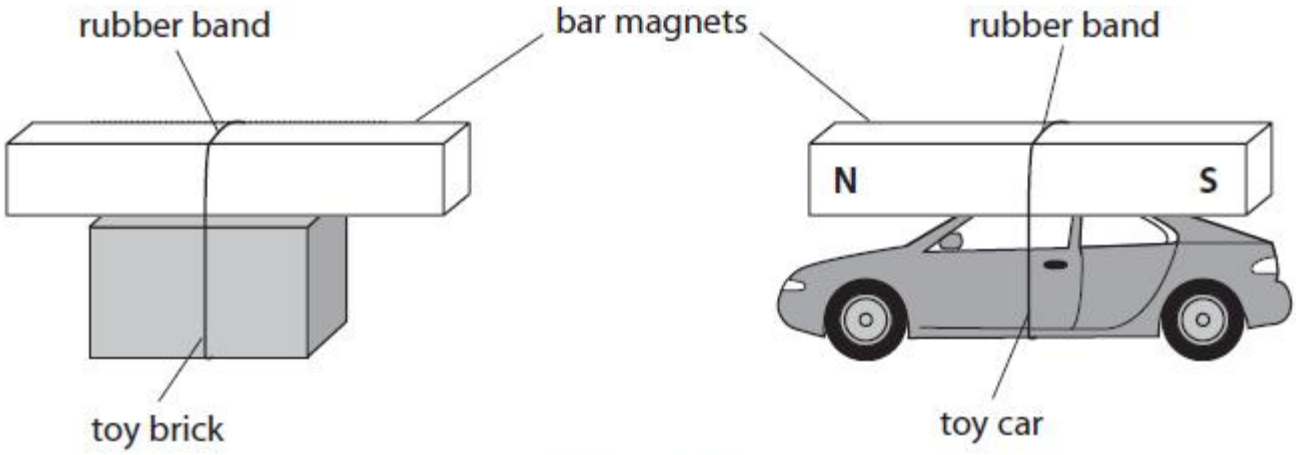

Figure 14

(i) There is a magnet attached to the top of each toy.

The student moves the toy brick towards the toy car.
The magnet on the toy brick repels the magnet on the toy car.
On Figure 14, label the north pole and the south pole on the magnet attached to the toy brick.

(1)

(ii) Explain why the toy car starts to move only when the toy brick gets near to the toy car.

(2)

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(iii) The student thinks that two magnets on top of each other will produce a magnetic field that is stronger than the magnetic field from a single magnet.

The student has a metre rule and more magnets available.
Describe how the student could develop this investigation to test this theory.

(4)

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(Total for question = 7 marks)

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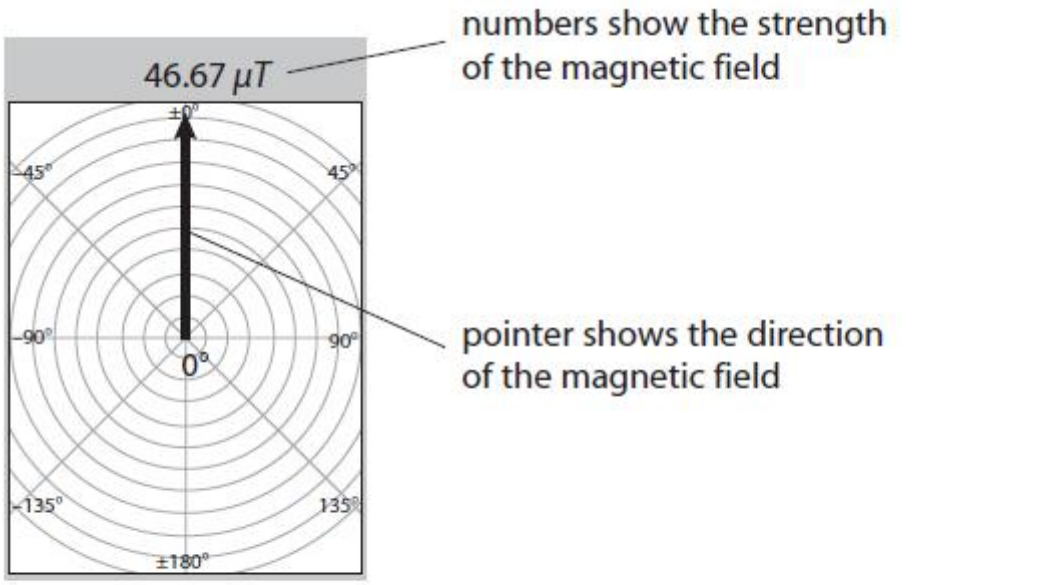
Q2.

A student's mobile phone has an app to measure a magnetic field.

The student places the phone on a table and rotates the phone until it is pointing north.

There are no magnets near to the phone.

Figure 10 shows the display on the screen of the phone.



(Source: adapted from MGS Lite app for iPhone)

Figure 10

(i) State why the strength of the magnetic field shown is not zero.

(1)

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The student places a magnet near to the phone on the table.

Figure 11 shows the magnet and the new display on the screen.

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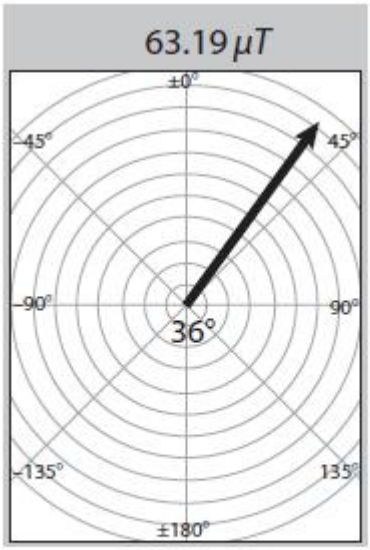

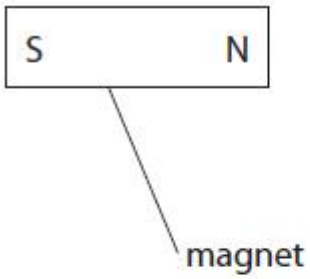

(Source: adapted from MGS Lite app for iPhone)

Figure 11

(ii) State **two** changes in the magnetic field measured by the phone from Figure 10 to Figure 11.

(2)

1 .....

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2 .....

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(iii) Describe how the student could use the mobile phone to investigate the strength of the magnetic field at different distances from the magnet.

(3)

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(Total for question = 6 marks)

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Q3.

Figure 1 shows a magnet, P, hanging from a support.

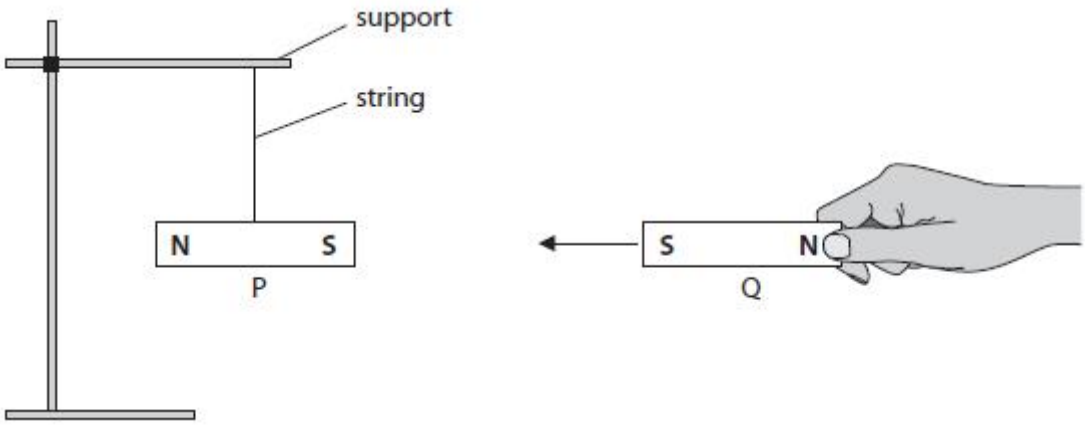

Figure 1

Explain what happens to magnet P when another magnet, Q, is brought towards it as shown.

(2)

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(Total for question = 2 marks)

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Q4.

Figure 3 shows a coil of wire called a solenoid.

Figure 3

Figure 4 gives information about the magnetic field of a solenoid.

description of the magnetic field	part of magnetic field	
	inside the coil	outside the coil
strong	✓	x
weak	x	✓
uniform	✓	x
non-uniform	x	✓

Figure 4

Describe how a student can determine the shape of the magnetic field around the solenoid.

(2)

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(Total for question = 2 marks)

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