Name of the Student:_____
Max. Marks : 21 Marks **Time : 21 Minutes**

Q1.

Figure 4 shows a toy that has a plastic cylinder, a plastic base and two similar magnets. Each of the two magnets is in the shape of a ring.

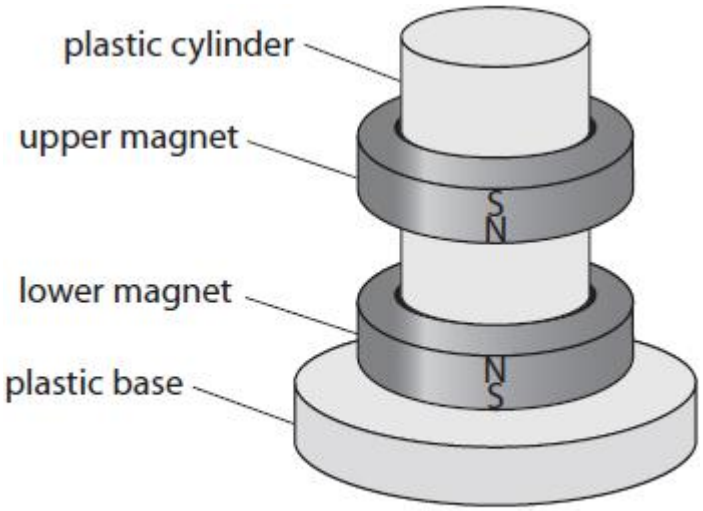

Figure 4

The upper magnet seems to float in the air above the lower magnet.

Describe the forces acting on the upper magnet.

Use the idea of magnetic fields in your answer.

(3)

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(Total for question = 3 marks)

Q2.

Figure 8 shows two magnets with their N poles facing each other.

Figure 8

On Figure 8, draw the shape and direction of the magnetic field between the two magnets.

(Total for question = 2 marks)

Q3.

Figure 3 shows two magnets with their N poles facing each other.

Figure 3

On Figure 3, draw the shape and direction of the magnetic field between the two magnets.

(Total for question = 2 marks)

Q4.

Figure 12 shows a wire carrying a current.

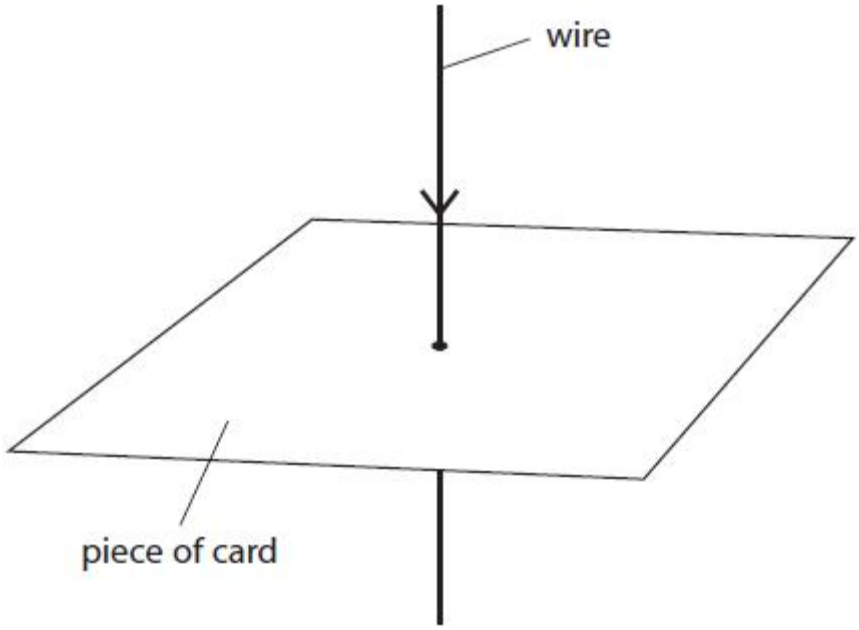

Figure 12

Draw, on the card in Figure 12, the magnetic field that is produced by the current.

(2)

(Total for question = 2 marks)

Q5.

Figure 7 shows a wire carrying a current.

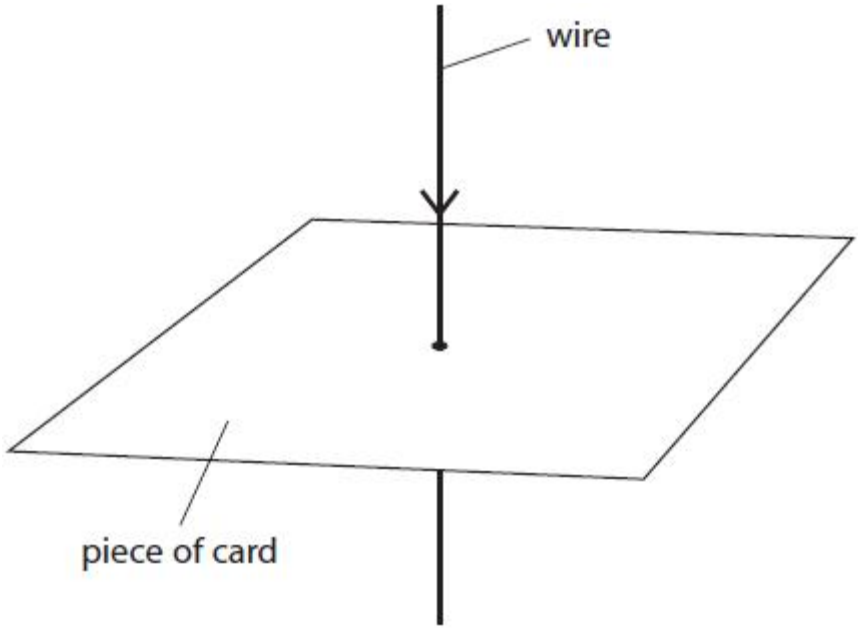

Figure 7

Draw, on the card in Figure 7, the magnetic field that is produced by the current.

(Total for question = 2 marks)

Q6.

Figure 6 represents the Earth.

Figure 6 shows **two** magnetic compass needles placed near to the Earth's surface, at points Q and T.

Each magnetic compass needle can rotate about its central dot.

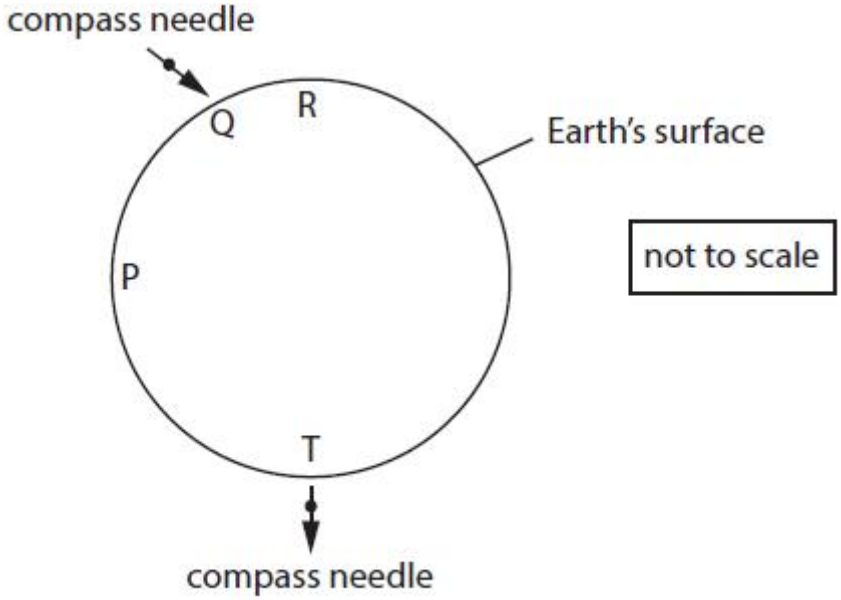

Figure 6

(i) A compass needle is placed at point P and another at point R, near to the Earth's surface.

On Figure 6, draw an arrow at point P and an arrow at point R to show the direction of the compass needle at each point.

(2)

(ii) Explain why the arrows point in the directions you have drawn in part (i).

You may draw on Figure 6 to help your answer.

(3)

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(Total for question = 5 marks)

Q7.

Figure 13 represents the Earth.

Figure 13 shows **two** magnetic compass needles placed near to the Earth's surface, at points Q and T.

Each magnetic compass needle can rotate about its central dot.

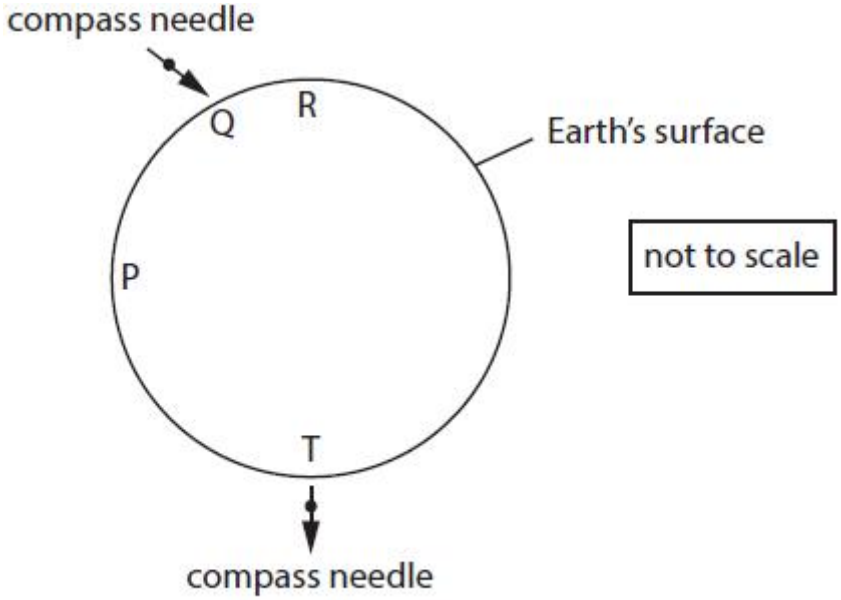

Figure 13

(i) A compass needle is placed at point P and another at point R, near to the Earth's surface.

On Figure 13, draw an arrow at point P and an arrow at point R to show the direction of the compass needle at each point.

(2)

(ii) Explain why the arrows point in the directions you have drawn in part (i).

You may draw on Figure 13 to help your answer.

(3)

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(Total for question = 5 marks)