Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic : 11_Static Electricity

Name of the Student:_____
Max. Marks : 18 Marks **Time : 18 Minutes**

Q1.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

This question is about static electricity.

A student has a rubber balloon tied to a long piece of cotton thread.

The student gives the balloon an overall electrostatic charge.

(i) Describe **one** way that the student could give the balloon an overall electrostatic charge.

(2)

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(ii) The student gives the balloon an overall negative charge.

Which of these sentences explains why the overall charge on the balloon is negative?

(1)

- ☐ **A** Negative charge has been removed from the balloon.
- ☐ **B** Negative charge has been added to the balloon.
- ☐ **C** Positive charge has been removed from the balloon.
- ☐ **D** Positive charge has been added to the balloon.

(iii) The student charges another balloon on a long thread.

Explain how the student can show that the two balloons have the same type of charge.

(3)

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(Total for question = 6 marks)

Q2.

A battery sends a current through a metal wire.

(a) (i) Complete the sentence by putting a cross (■) in the box next to your answer.

Direct current is movement of charge

(1)

- ☒ **A** backwards and forwards
- ☒ **B** in many directions
- ☒ **C** in one direction
- ☒ **D** up and down

(ii) Complete the sentence by putting a cross (■) in the box next to your answer.

The particles that flow in the metal wire are

(1)

- ☒ **A** atoms
- ☒ **B** electrons
- ☒ **C** protons
- ☒ **D** neutrons

(b) The current in a wire is 3.7 A.

Calculate the charge that flows into the wire in 13 s.

(2)

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(c) Plastic is an insulator.

A student rubs a piece of plastic with a cloth.

This gives the plastic a negative charge.

(i) Explain how the plastic is charged by the rubbing.

(2)

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(ii) The cloth is also charged when it rubs against the plastic.

Describe the charge on the cloth.

(2)

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(Total for Question is 8 marks)

Q3.

Answer the question with a cross in the box you think is correct ☒ . If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒ .

A student gives a plastic strip an overall electric charge.

(i) Describe **one** way that the student can give the plastic strip an overall electric charge.

(1)

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(ii) Figure 1 shows a gold leaf electroscope that can be used to investigate static electricity.

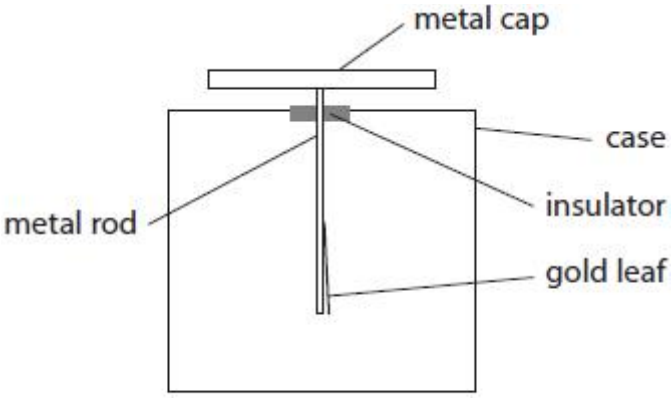
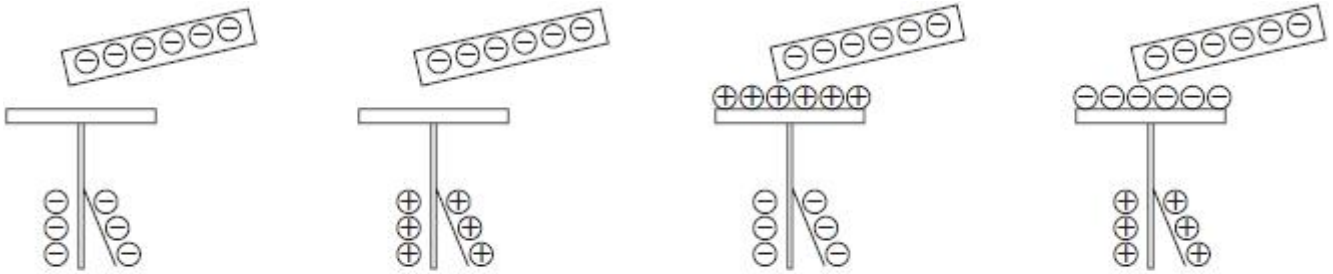


Figure 1

The electroscope has no overall charge.
The gold leaf has a very small mass and can bend very easily.
The student brings a negatively charged plastic strip near to the cap of the electroscope.
The gold leaf bends away from the metal rod.
Which diagram shows the way that electric charge is now distributed?

(1)



☒ **A** ☒ **B** ☒ **C** ☒ **D**

(Total for question = 2 marks)

Q4.

Figure 1 shows a prize that is made from a metal star on a plastic base.

Figure 1

The charged plastic base attracts some dust from the air.

Figure 2 shows a magnified view of part of the surface of the plastic base and a dust particle.

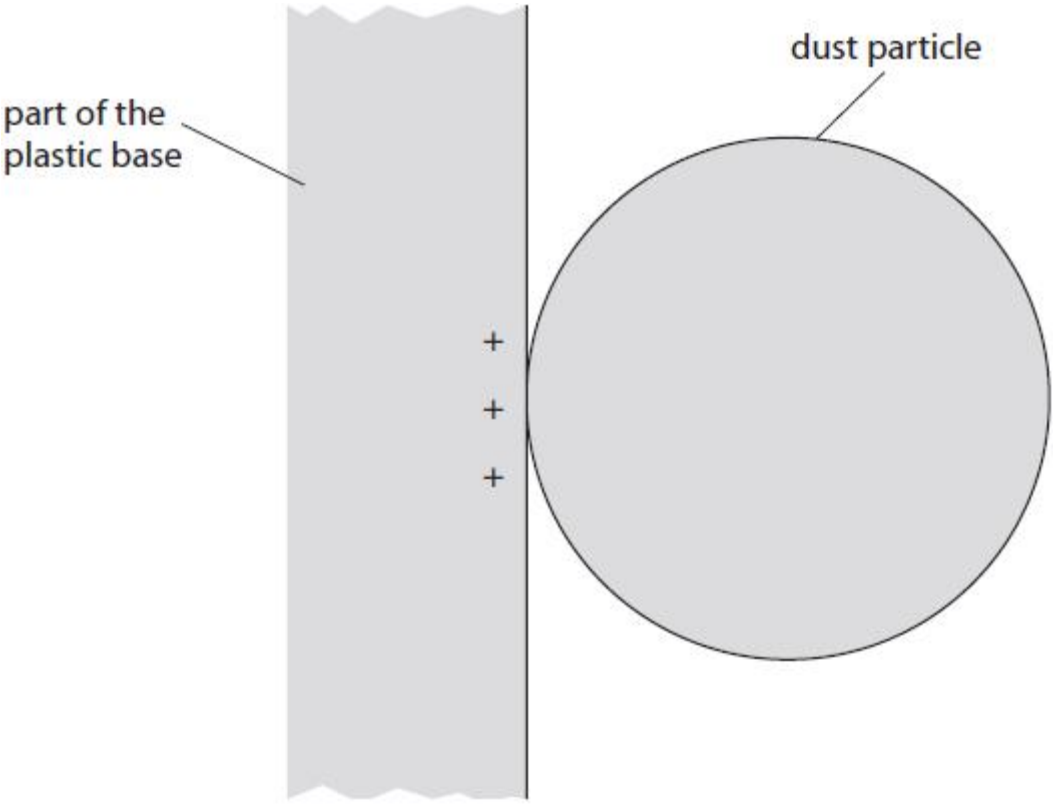


Figure 2

Some of the charges on the plastic base are shown but the charges induced on the dust particle are not shown.

Draw the charges induced on the dust particle in Figure 2.

(Total for question = 2 marks)