

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

Name of the Student: _____

Max. Marks : 26 Marks

Time : 26 Minutes

Q1.

Glass is an insulator.

A student rubs a piece of glass with some silk.

The glass becomes positively charged.

(i) Explain how rubbing silk charges the glass.

(2)

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(ii) The silk is also charged when it rubs against the glass.

Describe the charge on the silk.

(2)

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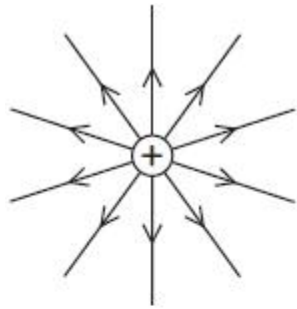
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(Total for question = 4 marks)

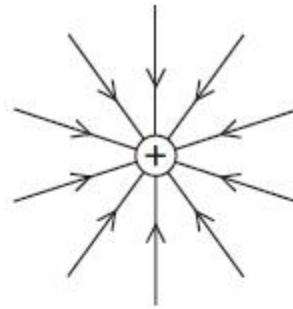
Q2.

Which of these diagrams shows the shape and direction of the electric field around a positive point charge?

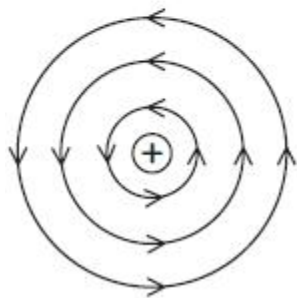
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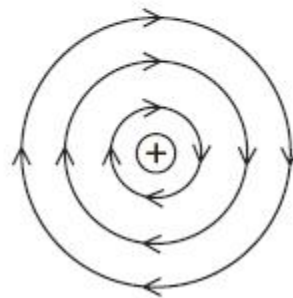
☐ **A**



☐ **B**



☐ **C**



☐ **D**

(Total for question = 1 mark)

Q3.

State **one** way of giving a plastic rod a static electric charge.

(1)

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(Total for question = 1 mark)

Q4.

A student wins a trophy. It is a metal cup on a black plastic base.



The student cleans the trophy.

She holds one of the metal handles and rubs the rest of the trophy with a dry cloth.

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

The plastic base becomes negatively charged because it gains

(1)

A atoms

B becquerel

C einstein

D radium

(ii) Explain why the base gains a negative charge when she rubs the trophy with the cloth.

(2)

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(iii) The metal cup does not become charged when she rubs the trophy.

Suggest why the cup does not become charged.

(2)

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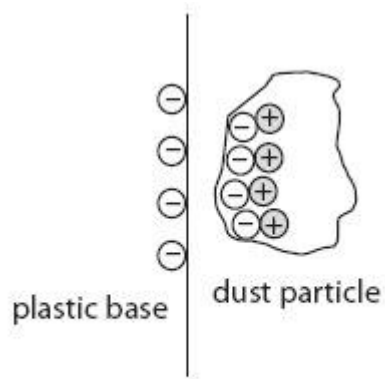
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(iv) Some dust particles in the air drift near to the plastic base just after she cleans the trophy.

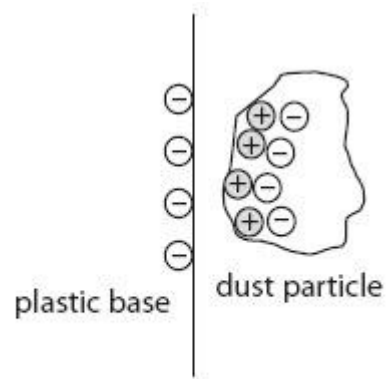
Which diagram shows the correct distribution of charges on a dust particle near to the charged plastic base?

Put a cross (☐) in the box next to your answer.

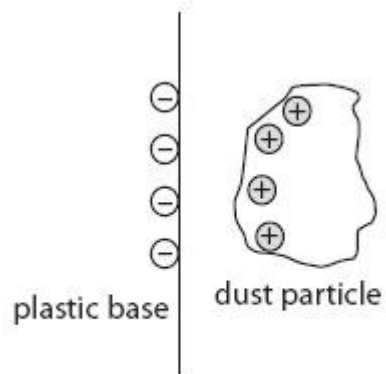
(1)



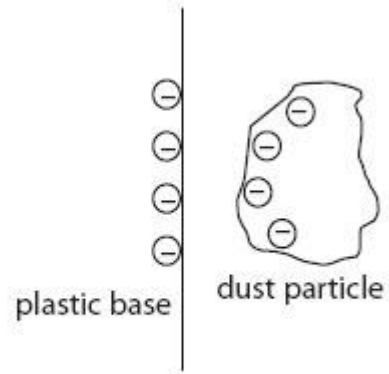
☐ **A**



☐ **B**



☐ **C**



☐ **D**

Q5.

The student rubs another balloon with a cloth.
This balloon becomes negatively charged.

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

Compared to the charge gained by the balloon, the cloth gains

(1)

- ☐ **A** a larger negative charge
- ☐ **B** a larger positive charge
- ☐ **C** an equal negative charge
- ☐ **D** an equal positive charge

(ii) Explain why the balloon became negatively charged when it was rubbed with the cloth.

(2)

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(iii) The student then puts this charged balloon against a metal cabinet.

Describe what happens to the charge on the balloon where it touches the metal cabinet.

(2)

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(iv) The student charges another balloon and holds it against a wall. The charged balloon sticks to the wall when he lets go.

Suggest why the balloon is attracted to the wall.

(1)

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Q6.

(a) A student wins a trophy. It is a metal cup on a black plastic base.



The student cleans the trophy.

She holds one of the metal handles and rubs the rest of the trophy with a dry cloth.

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

The plastic base becomes negatively charged because it gains

(1)

- A atoms
- B becquerel
- C einstein
- D radium

(ii) Explain why the base gains a negative charge when she rubs the trophy with the cloth.

(2)

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(iii) The metal cup does not become charged when she rubs the trophy.
Suggest why the cup does not become charged.

(2)

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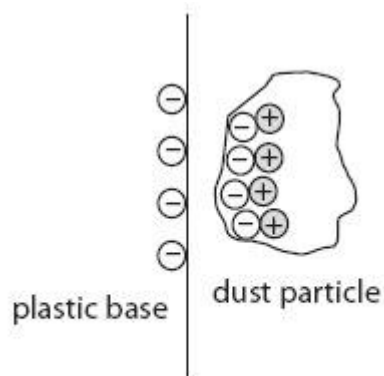
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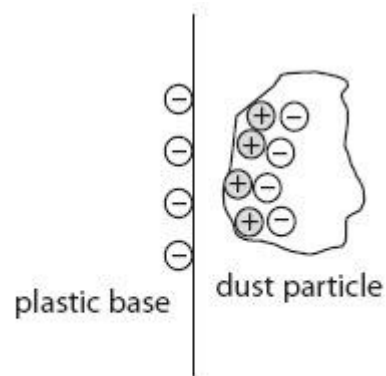
(iv) Some dust particles in the air drift near to the plastic base just after she cleans the trophy.

Which diagram shows the correct distribution of charges on a dust particle near to the charged plastic base?
Put a cross (☐) in the box next to your answer.

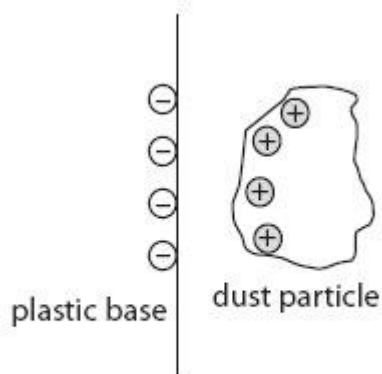
(1)



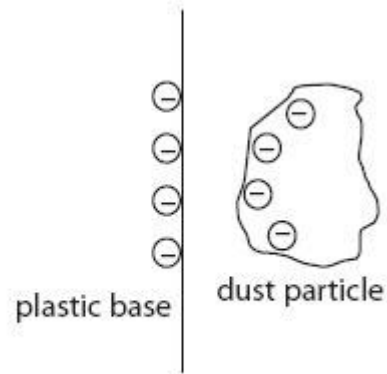
☐ A



☐ B



☐ C



☐ D

(b) Describe **one** situation where separation of electric charge can create a spark.

(2)

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(Total for Question = 8 marks)