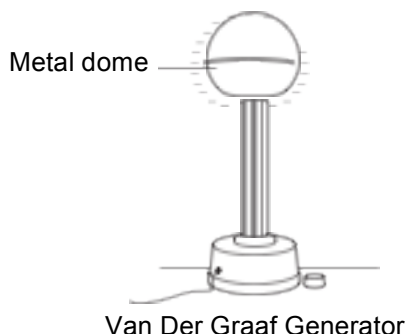


- 1 (a) The diagram shows a Van de Graaff generator. When the generator is switched on, the metal dome becomes negatively charged.



- 1 (a) (i) Why does the metal dome become negatively charged?

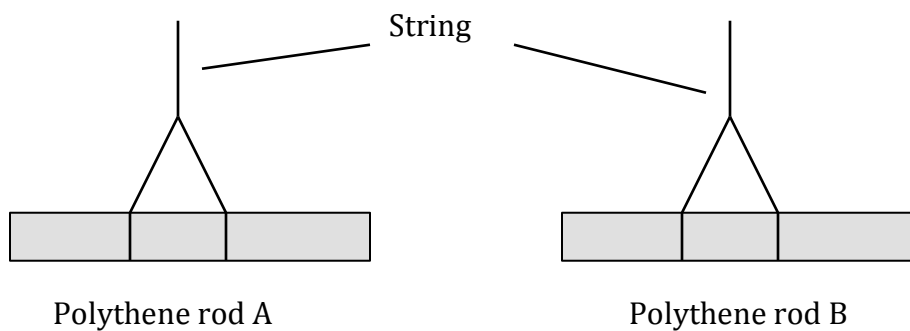
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.....  
(1 mark)

- 1 (a) (ii) A student stands on a wooden box next to the generator, puts her hands on the metal dome and the generator is switched on. After a few moments, her hair stands on end.

Explain why her hair stands on end.

.....  
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.....  
(2 marks)

- 2 (a) In a separate experiment, a student rubbed two identical polythene rods with a dry cloth and suspended them with some string.



Turn over for the question

- 2 (a) (i) Describe what you would expect the student to observe as the ends of the polythene rods were brought near to each other.

.....

Explain your answer.

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*(2 marks)*

- (2) (b) Explain, in terms of electron movement, what happened as the rods were rubbed with the cloths.

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*(3 marks)*

**(Total 8 marks)**

- End of questions -

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# Static Electricity

Question	Answers	Guidance notes	Marks
1 (a)	Electrons are transferred onto the dome. Or The dome gains electrons.	You cannot say that positive charges have moved.	
1 (a) (ii)	Hair gains the same type of charge Or Hair has gained a negative charge Or Hair gains electrons  Similar charges repel Or Negative charges repel Or Electrons repel	You cannot say that the hair becomes positively charged.	1       1
2(a)(i)	They would repel/move away from each other.  They both have the same charge. Or They both have a positive charge Or They both have a negative charge.		1    1
2(b)	Electrons move from the cloth to the rod (or vice versa)  Where the electrons travel to becomes negative  Where the electrons travel from becomes positive.	It's not important to know which way the electrons are going to move. You have to know that electron are rubbed off, or move from one place to another.	1  1  1