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

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

Mark Schemes

Q1.

	Answer	Acceptable answers	Mark
(a)(i)	negative (1)		**(1)**
(a)(ii)	(much) smaller than a neutron (1)		**(1)**
(b)(i)	An explanation linking • (friction/it) produces charges (at the end of the pipe) (1) • charge jumps to fuel tank (1) • (charge/friction) causes a spark (1) • can cause a fire /explosion (1)	static (electricity) builds up	**(2)**
(b)(ii)	An explanation linking • (excess) charge / electrons (1) • Removed/ conducts away (1)	static charge discharged/ neutralised discharge current scores both marks	**(2)**

		Indicative Content	Mark
QWC	***(c)**	An explanation etc. including some of the following points • static electricity • opposites charges attract • charges are different • induced charges • charges separate • charges move	**(6)**

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		• electrons move • electrons move towards a positive charge / balloon / rod Allow credit for a correct explanation for an effect which is not given in the question. Allow credit for separation of charge being shown on a diagram.	
Level	**0**	No rewardable content	
1	**1 - 2**	• a limited explanation. Explains the effect is caused by charges. e.g. the charge on the balloon pulls the water; the charge on the rod attracts the bits of paper; the balloon is rubbed to give it charge; opposites attract; positive and negative attract; • the answer communicates ideas using simple language and uses limited scientific terminology • spelling, punctuation and grammar are used with limited accuracy	
2	**3 - 4**	• a simple explanation. Explains an effect is caused by opposite charges attracting or like charges repelling. e.g. the charge on the balloon is opposite to the charge on the water so they attract; the positive charges on the balloon attract negative charges on the girl's hair; • the answer communicates ideas showing some evidence of clarity and organisation and uses scientific terminology appropriately • spelling, punctuation and grammar are used with some accuracy	
3	**5 - 6**	• a detailed explanation. Explains the effect is caused by induction, charge separation or moving electrons which leads to attraction between opposite charges. e.g. the electrons have been moved off the balloon so it has a positive charge and attracts the negative charge on the hair; the balloon has a positive charge and induces a negative charge on the stream of water which attracts it; • the answer communicates ideas clearly and coherently uses a range of scientific terminology accurately • spelling, punctuation and grammar are used with few errors	

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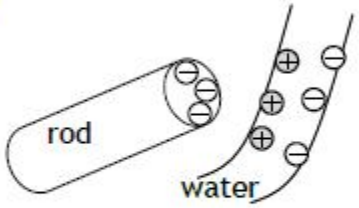
Total marks for question = 12

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Q2.

Question Number	Answer	Acceptable answers	Mark
(i)	**A** positive : equal (1)		**(1)**

Question Number	Answer	Acceptable answers	Mark
(ii)	An explanation linking negative charge(s)/electrons (1) (move/ transfer) {to (plastic) rod / to it / from cloth} (1)	Any reference to positive charges, positive electrons or protons moving scores zero marks for question ignore contradictions to Q i.e. cloth is negatively charged attract is insufficient for transfer e.g. {rod /it} gains/gets electrons (from cloth) for 2 marks the cloth loses electrons (to the rod) for 2 marks	**(2)**

Question Number	Answer	Acceptable answers	Mark
(iii)	B  		**(1)**

Question Number	Answer	Acceptable answers	**Mark**
(iv)	a suggestion including: plastic rod has {become neutral/ discharged/no longer charged/not negatively charged (anymore)} OR {charge/electrons} {transferred/ taken} from rod (to/by the water) (1)	Any reference to positive charges, positive electrons or protons moving scores zero marks for question accept the rod loses its charge/ electrons OR rod is 'earthed'/ 'grounded' ignore has same charge as water the water removes/washes away the electrons/charge	**(1)**

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