

**Name of the Student:** \_\_\_\_\_

**Max. Marks : 19 Marks**

**Time : 19 Minutes**

Mark Schemes

Q1.

Question number	Answer	Mark
	<div><div>B</div><div><div>negative</div><div>positive</div></div></div>	(1)

Q2.

Question Number	Answer	Mark
	<b>B</b> negative    positive The only correct answer is B correlating with attraction of X to Y, and repulsion of Z from Y.	<b>(1)</b> <b>A01.1</b>

Q3.

	Answer	Acceptable answers	Mark
(i)	<p>Correct responses can be seen in (i) or (ii)</p> <p>An explanation linking</p> <ul style="list-style-type: none"> <li>• <u>electrons</u> (1)</li> </ul> <p>)and <u>one</u> of</p> <ul style="list-style-type: none"> <li>• removed by friction (1)</li> <li>• (transferred) <u>to plastic</u> (1)</li> </ul>	<p>["positive electrons/ protons moving", seen anywhere in part (i) or (ii) loses this mark] ignore reference to charge before rubbing transferred from cloth</p>	(2)
(ii)	<p>opposite to charge on plastic (1) <u>equal</u> to charge on the plastic (1)</p>	<p>charge on cloth is positive <u>same size</u> as charge on plastic</p> <p>electrons transferred from the cloth equal to electrons lost by cloth</p>	(2)

Q4.

Question number	Answer	Additional guidance	Mark
<b>(i)</b>	<p>C lost electrons</p> <p>A is incorrect because it would give the base a negative charge</p> <p>B and D are incorrect because protons do not move in this situation.</p>		<b>(1)</b> <b>AO1</b>

Question number	Answer	Additional guidance	Mark
<b>(ii)</b>	<p>any <b>two</b> from</p> <p>electrons have been transferred / moved (1)</p> <p>by friction (1)</p>	<p>cloth has gained electrons</p> <p>accept negative charge for electrons</p> <p>do not credit positive electrons / protons</p>	<b>(2)</b> <b>AO1</b>

Question Number:	Answer	Additional Guidance	Mark
(i)	<p>an explanation to link 3 of the following:</p> <p>friction (between cloth and comb) (1)</p> <p>transfer of electrons / charge {from plastic comb / on to the cloth} (1)</p> <p>electrons carry a negative charge (1)</p> <p>leaving <b>excess</b> positive charge on the comb (1)</p>	<p>reference to positive electrons or positive charge moving loses that mark point</p> <p>electrons/charges are rubbed off comb (on to cloth)</p> <p>leaving cloth with negative charge</p> <p>more protons than electrons (on the comb)</p>	(3) AO 2 1

Question Number:	Answer	Additional Guidance	Mark
(ii)	<p>an explanation linking:</p> <p>a negative charge is induced (1)</p> <p>on the part of the paper closest to the comb (1)</p> <p>opposite charges attract (1)</p>	<p>allow a clear description of induction</p> <p>ignore references to positive charge being moved in this context only</p> <p>force of attraction sufficient to pick up the pieces of paper</p>	(3) AO 2 1

Question number	Answer	Additional guidance	Mark
(i)	An explanation that combines identification - understanding (1 mark) and reasoning - understanding (1 mark):  charges move (1)  because of <b>friction</b> (1)	(negative) electrons transfer glass loses electrons	(2)

Question number	Answer	Mark
(ii)	An explanation that combines identification - understanding (1 mark) and reasoning - understanding (1 mark):  (negative) electrons are rubbed off the glass (on to the silk) (1)  giving the silk a <u>negative</u> charge (1)	(2)