


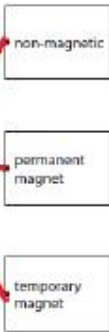
Name of the Student: \_\_\_\_\_

Max. Marks : 21 Marks

Time : 21 Minutes

Mark Schemes

Q1.

Question number	Answer	Additional guidance	Mark
	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>object</p>  <p>nail in a current-carrying coil</p> <p>plotting compass needle</p> <p>wooden ruler</p> </div> <div style="text-align: center;"> <p>description</p>  <p>non-magnetic</p> <p>permanent magnet</p> <p>temporary magnet</p> </div> </div>	<p>three links correct (2)</p> <p>one link correct (1)</p>	<p>(2) AO1</p>

Q2.

Question Number	Answer	Additional guidance	Mark
	<div data-bbox="427 275 718 488" data-label="Diagram"> </div> <p data-bbox="375 566 981 645">MP1: any (vertical) line from pole to pole (1)</p> <p data-bbox="375 768 981 891">MP2: at least two further equidistant straight, (vertical) lines from pole to pole (1)</p> <p data-bbox="375 925 981 969">MP3: arrow on any line, north to south (1)</p>	<p data-bbox="1029 566 1236 712">ignore lines outside of the magnets for MP1 and MP2</p> <p data-bbox="1029 768 1220 801">judge by eye</p> <p data-bbox="1029 925 1252 1104">any arrow south to north, no mark awarded for MP3</p>	(3)

Q3.

Question number	Answer	Additional guidance	Mark
	<p>an explanation linking any <b>two</b> of</p> <p>steel is magnetic (material) (1)</p> <p>aluminium is non-magnetic (material) (1)</p> <p>steel falls into container A / aluminium falls into container B (1)</p>	<p>steel attracted / sticks to / carried round by magnet/roller)</p> <p>is not attracted / does not stick (to magnet roller)</p> <p>steel cans are carried further round than aluminium and fall into A steel hangs on for longer / aluminium falls quicker</p>	<b>(2)</b>

Q4.

Question	Answer	Mark
(i)	<p><b>B</b> iron</p> <p><b>A,C and D</b> are not magnetic materials</p>	<p><b>(1)</b></p> <p><b>AO1.1</b></p>

Question	Answer	Additional guidance	Mark
(ii)	<p>A description to include:</p> <p>method (1) put magnet near paper clips</p> <p>outcome (1) (picks up/attracts) more paper clips OR (has the) longest chain OR (picks up/attracts from a) greater distance</p>	<p>method can be included with the outcome in one sentence for two marks e.g. see which magnet attracts the most paper clips</p>	(2) AO1.2

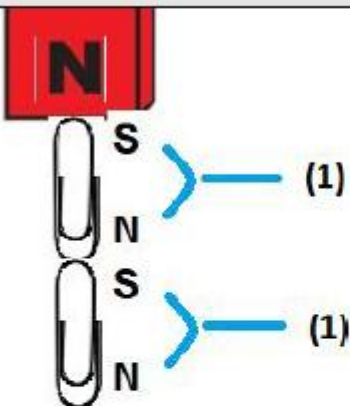
Q5.

Question Number	Answer	Mark
	<p><b>C</b> cobalt</p> <p><b>C</b> is the only correct answer.</p> <p><b>A</b> is incorrect because aluminium is not magnetic.</p> <p><b>B</b> is incorrect because carbon is not magnetic.</p> <p><b>D</b> is incorrect because copper is not magnetic.</p>	(1)

Q6.

Question number	Answer	Mark
	B copper	(1)

Q7.

Question number	Answer	Additional guidance	Mark
(i)		<p>both poles needed for each mark (either side of paper clip, right or left)</p> <p>allow just S at the top of the pair and N at the bottom of the pair for 1 mark</p> <p>ignore the third paper clip after these two (given in question)</p>	(2) AO1
Question number	Answer	Additional guidance	Mark
(ii)	induced (1)		(1) AO1
Question number	Answer	Additional guidance	Mark
(iii)	iron / steel / nickel / cobalt (1)	<p>ignore 'metal'</p> <p>do not allow any other named metal</p>	(1) AO1

Question number	Answer	Additional guidance	Mark
(iv)	<p>description including <b>two</b> from</p> <p>use a (plotting) compass (1)</p> <p>(plotting compass) shows a change in direction / needle moves</p> <p>OR</p> <p>bring the paper clips together (1)</p> <p>seeing if they attract / repel (1)</p> <p>OR</p> <p>use of iron filings (around the paperclips) (1)</p> <p>see a pattern (1)</p>	<p>sees repulsion / repelling</p> <p>bring the paper clips near to a magnetic material ignore 'magnet' for this marking point</p> <p>do not accept 'attracts to a magnet'</p> <p>accept for two marks bring a magnet close to a paper clip to test for repulsion</p>	(2) AO1

Q8.

Question Number:	Answer	Mark
	<p><b>B</b>                      <b>small</b>                      <b>large</b></p> <p><b>The only correct answer is B</b></p> <p><b>A</b> is not correct because the current is small</p> <p><b>C</b> is not correct because the distance from the wire is large</p> <p><b>D</b> is not correct because the distance from the wire is large</p>	(1) AO 1 1

Q9.

Question Number:	Answer	Additional guidance	Mark
	a description to include:  remove the magnet (from the paper clips)(1)  paperclips no longer attracted to each other (1)	accept no longer magnetic	(2) AO 3 1a AO 3 1b