

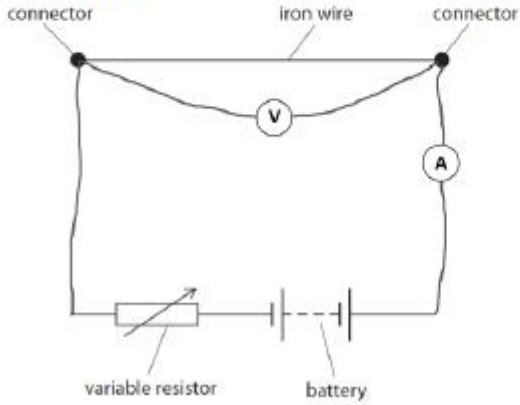
Name of the Student: _____

Max. Marks : 18 Marks


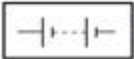
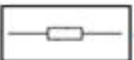
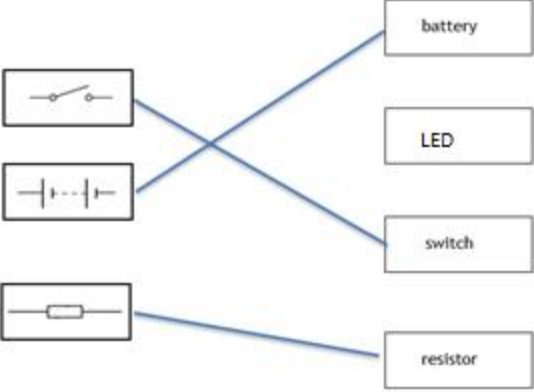
Time : 18 Minutes

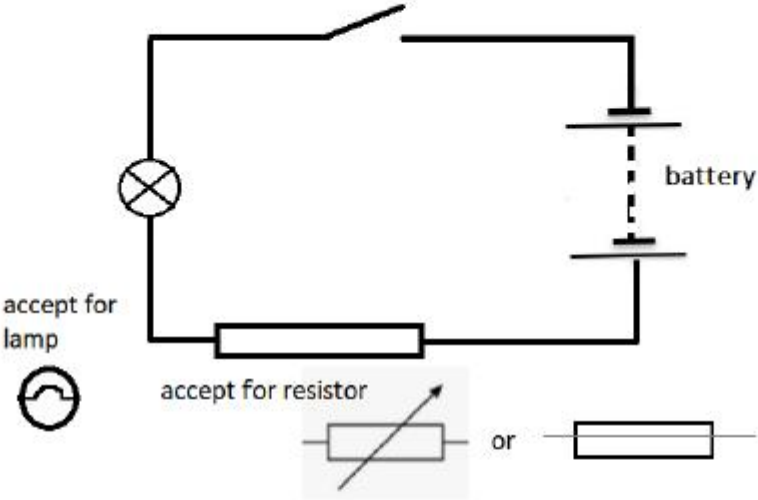
Mark Schemes

Q1.

Question number	Answer	Additional guidance	Mark
	<p>voltmeter connected in parallel with the iron wire / any part of the iron wire (1)</p> <p>ammeter connected in series with the iron wire (1)</p> <p>example:</p> 	<p>accept any recognisable symbols.</p> <p>accept symbol drawn over connecting wire</p> <p>do not credit the same type of meter shown in contradictory positions</p>	<p>(2) AO1</p>

Q2.

Question number	Answer	Additional guidance	Mark
	<div><div><div>circuit symbol</div><div><div></div><div></div><div></div></div><div><div>description</div><div><div>battery</div><div>LED</div><div>switch</div><div>resistor</div></div></div><div></div></div></div>	<p>1 mark for each correct line.</p> <p>more than one line to or from any box loses the mark for that symbol.</p>	<p>(3)</p> <p>A01</p>

Question number	Answer	Additional guidance	Mark
	 <p>lamp symbol (1)</p> <p>switch symbol (1) open or closed</p> <p>resistor symbol (1)</p> <p>complete series circuit, with any circuit symbol(s) connected to the battery (1)</p>	<p>ignore any additional symbols</p> <p>ignore cells / batteries</p>	<p>(4) AO1</p>

Question number	Answer	Additional guidance	Mark
(i)	Any two from: <ul style="list-style-type: none"> remove one or two of the cells (1) put a resistor in (series with lamp) (1) leave on for a long time (1) 	reverse a cell	(2)

Question number	Answer	Additional guidance	Mark
(ii)	recall $P = \frac{E}{t}$ (1) substitution (1) $\frac{18}{20}$ evaluation (1) 0.9 W (1)	allow 1 mark for a correct substitution of values into an incorrect equation independent mark watt(s) award full marks for correct answer without working	(4)

Question number	Answer	Additional guidance	Mark
(iii)	substitution into $V = IR$ (1) $4.2 = 0.19 \times R$ rearrangement (1) $\frac{4.2}{0.19}$ evaluation (1) 22 (Ω)	award full marks for correct answer without working 22.1(Ω)	(3)