



Rewarding Learning

**General Certificate of Secondary Education
2010–2011**

Science: Single Award (Modular)

Electricity, Waves and Communication
Module 5

Higher Tier

[GSC52]

THURSDAY 24 FEBRUARY 2011, MORNING

**MARK
SCHEME**

			AVAILABLE MARKS
4	<p>(a) $4/11.5 = [1]$ $0.347/0.3 = [2]$ 0.35</p> <p>(b) 5 points correct = [2], 4/3 points = [1] correct line = [1]</p> <p>(c) type/thickness of wire/temperature (any two)</p> <p>(d) increased length = increased resistance = lower current (any one) [1]</p> <p>(e) repeat/average</p>	<p>[2]</p> <p>[3]</p> <p>[2]</p> <p>[1]</p> <p>[1]</p>	<p>9</p>
5	<p>(a) (i) conventional from +ve to -ve = [1]</p> <p>(ii) opposite direction = [1] (-ve to +ve) flow of electrons = [1] electrons -ve charge = [1]</p> <p>(b) 1282 units = [1] 19230 pence or £192.30 = [1] (need units)</p>	<p>[1]</p> <p>[3]</p> <p>[2]</p>	<p>6</p>
6	<p>(a) (i) convex/converging</p> <p>(ii) refracted/bent [1] inwards/converge together/meet focus on retina [1]</p> <p>(iii) long sight</p> <p>(b) light enters reflector at/above critical angle [1] critical angle = angle at which TIR occurs/42 degrees for glass [1] = angle at which refraction doesn't occur [1] = angle below which refraction occurs [1] with TIR no refraction occurs [1] (any three = [1] each)</p>	<p>[1]</p> <p>[2]</p> <p>[1]</p> <p>[3]</p>	<p>7</p>
Total			45