



Rewarding Learning

**General Certificate of Secondary Education
2011–2012**

Science: Single Award (Modular)

Electricity, Waves and Communication
Module 5

Foundation Tier

[GSC51]

WEDNESDAY 29 FEBRUARY 2012

9.30 am–10.15 am

**MARK
SCHEME**

		AVAILABLE MARKS
1	(a) The wavelength is the length of one complete vibration The amplitude is the maximum height of a wave	[1] [1]
	(b) vibrations/energy/longitudinal = 1 mark each	[3]
	(c) (i) B	[1]
	(ii) D	[1]
	(iii) A and B	[1]
		8
2	(a) (i) correct symbol = 1 mark parallel with one bulb = 1 mark	[2]
	(ii) bulbs will light no gaps in circuit/circuit is complete electric/energy/current will flow/ ammeter reading will rise (any 2 = 1 mark each)	[2]
	(iii) series	[1]
	(iv) 3V	[1]
	(b) (i) kettle/hairdryer/grill/toaster/iron/straighteners (any 2 = 1 mark each)	[2]
	(ii) ohm	[1]
		9
3	(a) (i) A = neutral [1] B = live [1]	[2]
	(ii) yellow and green	[1]
	(b) (i) 2500/250 [1] 10 amps [2]	[2]
	(ii) 13A/c.m.	[1]
	(c) (i) earth wire	[1]
(ii) plastic/rubber	[1]	
		8
4	(a) (i) A = cornea [1] B = retina [1]	[2]
	(ii) convex/converging	[1]
	(b) long sight/short sight/astigmatism (any 2 = 1 mark each)	[2]
		5

			AVAILABLE MARKS
5	(a) (i) timing how long the bulb stays lit or implied	[1]	
	(ii) all the electricity is used up or implied	[1]	
	(iii) not windy	[1]	
	(b) all bars correct height = 2 marks 3/2 bars correct height = 1 mark	[2]	
	(c) (i) solar/hydroelectric/wave/geothermal/tidal	[1]	
	(ii) fossil fuels non-renewable/will run out [1] less carbon dioxide/less air pollution/less acid rain less greenhouse gases [1] less greenhouse effect/less global warming [1]	[3]	
6	(a) light travels faster than sound	[1]	
	(b) sound bounces off/reflects [1] hard surfaces/brick wall [1]	[2]	
	(c) 50/0.3 [1] 50/0.15 or 100/0.3 [2] 333 [3]	[3]	
		Total	