



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]	8
	(b)	vibrations/energy/longitudinal = 1 mark each	[3]	
	(c) (i)	B	[1]	
	(ii)	D	[1]	
2	(a) (i)	correct symbol = 1 mark parallel with one bulb = 1 mark	[2]	9
	(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]	
3	(a) (i)	A = neutral [1] B = live [1]	[2]	8
	(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]	
4	(a) (i)	A = cornea [1] B = retina [1]	[2]	5
	(ii)	convex/converging	[1]	
	(b)	long sight/short sight/astigmatism (any 2 = 1 mark each)	[2]	

			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]	
6	(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]	9
	(a)	light travels faster than sound	[1]	6
	(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			