Rewarding Learning

General Certificate of Secondary Education
2012

Science: Single Award (Modular)

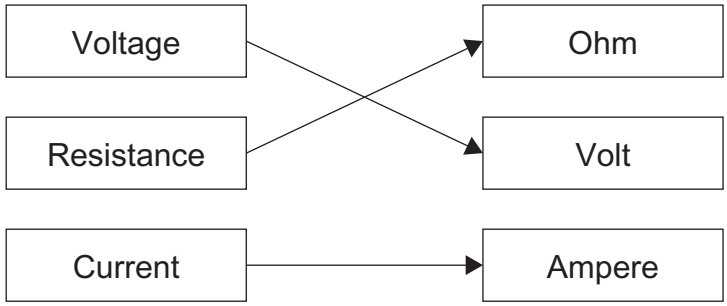
Electricity, Waves and Communication
Module 5

Foundation Tier

[GSC51]

WEDNESDAY 14 NOVEMBER 2012
1.30 pm–2.15 pm

MARK SCHEME

					AVAILABLE MARKS
1	**(a)**	**(i)**			
			All 3 correct = 2 marks 1/2 correct = 1 mark	[2]	
		(ii)	resistance	[1]	
		(iii)	toaster [1] kettle [1]	[2]	
	(b)	**(i)**	A = fuse	[1]	
		(ii)	B = neutral (wire)	[1]	
		(iii)	green + yellow	[1]	8
2	**(a)**		A = cornea [1] B = retina [1]	[2]	
	(b)	**(i)**	convex	[1]	
		(ii)	bends/refracts light rays [1] together/inwards [1] converges light rays/focuses light rays on retina (any 2)	[2]	
	(c)	**(i)**	lens too strong [1] light rays meet/focused before retina [1]	[2]	
		(ii)	close objects clear/far objects blurry	[1]	8
3	**(a)**	**(i)**	gas/wind/hydroelectric	[1]	
		(ii)	coal/oil/nuclear	[1]	
	(b)	**(i)**	will not run out	[1]	
		(ii)	wind/hydroelectric/tidal	[1]	
	(c)		too expensive/stops use by boats or fish/not much electricity produced/still experimental	[1]	
	(d)		coast [1] transport [1]	[2]	7

					AVAILABLE MARKS
4	**(a)**	**(i)**	transverse	[1]	
		(ii)	0.3	[1]	
		(iii)	0.4	[1]	
	(b)	**(i)**	all carry energy/travel at same speed/ travel at speed of light/all transverse	[1]	
		(ii)	frequency/wavelength	[1]	
		(iii)	radio waves = tv + radio signals microwave = mobile phones/satellites visible light/infrared = optic fibres (1 for named type + 1 for correct use)	[2]	7
5	**(a)**	**(i)**	circuit 1 voltmeter replaced with ammeter	[1]	
			circuit 2 1 cell/or battery is the wrong way round	[1]	
		(ii)	series	[1]	
	(b)		A3 = 0.2A	[1]	
			A4 = 0.4A	[1]	
	(c)		parallel/circuit 3 = always got light/other cars can see you one goes out, other still lit [1] series/circuits 1+2 = if one goes out, both go out [1]	[2]	7
6	**(a)**		5 points correct = 2 marks 4/3 points correct = 1 mark correct line = 1 mark	[3]	
	(b)		bigger diameter = more power/more electricity	[1]	
	(c)		wind speed/strength/blade shape	[1]	
	(d)		less carbon dioxide/greenhouse gases/air pollution [1] less global warming/less greenhouse effect [1] saves fossil fuels [1]	[3]	8
				Total	**45**