

Question			Answer	Max mark	Additional guidance
13.	(a)		$V = IR$ 1 $12 = I \times 6800$ 1 $I = 1.8 \times 10^{-3} A$ 1	3	Sig figs: Accept 2, 1.76, 1.765
	(b)		The (circuit/total) resistance is less 1 <u>Initial</u> charging current is greater 1	2	Independent marks. Accept: <u>Average</u> current is greater OR The current <u>at any given time</u> is greater. 'Current greater' on its own is not sufficient for 2 nd mark.
14.	(a)		Photovoltaic (effect)	1	
	(b)	(i)	$I = 35 \text{ mA}$ (from graph) 1 $P = IV$ 1 $(P = 0.035 \times 2.1)$ $P = 0.074 \text{ W}$ 1	3	$P = IV$ anywhere, 1 mark. Sig figs: Accept 0.07, 0.0735 Accept a value for I between 34.5 and 35 mA inclusive. $I = 34.5 \text{ mA}$ gives $P = 0.073 \text{ W}$ Sig figs for above: Accept 0.07, 0.0725, 0.07245
		(ii)	Greater number of <u>photons</u> (strike the solar cell) <u>per second</u>	1	The answer has to imply a 'rate'. Any correct statement followed by wrong physics, 0 marks.