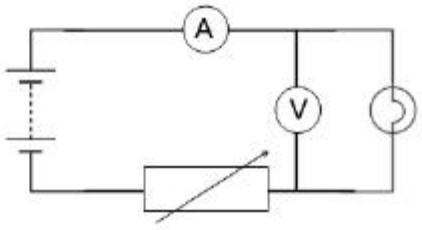
Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic : 10_Electricity

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Name of the Student:_____
Max. Marks : 17 Marks **Time : 17 Minutes**

Mark Schemes

Q1.

Question number	Answer	Additional guidance	Mark
	a complete circuit diagram with a correct symbol for a variable resistor added in series with a lamp (1) ammeter connected in series with a lamp (1) voltmeter added in parallel with a lamp (1)	allow inclusion of this lamp symbol in series with the power supply  allow potential divider or potentiometer alternative allow ammeter and voltmeter symbols to be shown in square boxes example: 	(3) AO1.2

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Q2.

Question number	Answer	Additional guidance	Mark
(i)	A description including as the potential difference (voltage) increases so does the current (1) idea of gradient of graph decreasing as V increases (1)	 positive correlation at a decreasing rate non-linear not directly proportional	(2) AO3

Question number	Answer	Additional guidance	Mark
(ii)	Award one mark for each row of the table voltage in V / current in mA point P: 1(.00) / 20 point Q: 3.4 ±0.1 / 43 ±1	ignore any units added in the boxes	(2) AO2

Question number	Answer	Additional guidance	Mark
(iii)	substitution (1) $(R=)\frac{4.5}{51(\times 10^{-3})}$ evaluation (1) 88.(2) (Ω)	 0.088(2) or 8.8(2) or 0.88(2) or 0.09 seen scores 1 mark 0.088(2) kΩ or 0.09 kΩ scores 2 marks award full marks for correct answer without working	(2) AO2

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Question number	Answer	Additional guidance	Mark
(iv)	an explanation linking any three of: identification of resistance increasing (1) heating (of the filament) (1) because of more collisions (1) of electrons (with ions / atoms / other electrons) (1)	temperature increases	(3) AO1

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Q3.

Question number	Answer	Additional guidance	Mark
i	any **one** suggestion from (collect data in a) **short time** (1) simultaneous measurement (of current and voltage) (1) gives an immediately **accessible graph** to analyse / think about (1) greater number of / more data pairs collected (1) **improves reliability** (1)	 allow saves time allow it is fast ignore 'accuracy' ignore 'precision'	**(1)** **AO2.2**

Question number	Answer	Additional guidance	Mark
ii	a description to include as potential difference increases current increases (1) non-linear (1)	 curve / changes gradient / changes steepness	**(2)** **AO3.2**

Question number	Answer	Additional guidance	Mark
iii	an explanation linking any attempt at calculating resistance using data from the graph **and** R=V/I (1) with a second pair of values used to give another value for **resistance showing that resistance increases as p.d. increases** (1)	alternative as potential difference increases resistance increases with shown by gradient of graph decreasing as p.d. increases	**(2)** **AO1.2**

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