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

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Name of the Student:_____
Max. Marks : 19 Marks **Time : 19 Minutes**

Mark Schemes

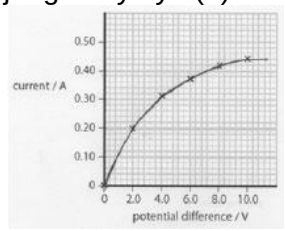
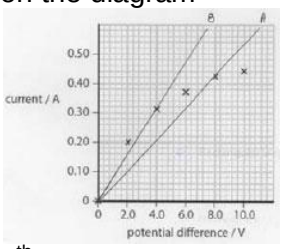
Q1.

	Answer	**Acceptable answers**	**Mark**
(i)	An explanation linking • electrons / negative charges (1) • collide with ions/lattice/electrons (1)	atoms / nuclei allow for 1 mark,electrical energy transferred to thermal/heat energy if no other scored	**(2)**
(ii)	A suggestion including energy transfer in the thermistor/ any component part of the electrical circuit causes a rise in temperature of thermistor (above surroundings)(1)	thermistor/resistor gets hot/is heated	**(1)**

Q2.

	Answer	**Acceptable answers**	**Mark**
(a)(i)	D variable resistor		**(1)**
(a)(ii)	B in parallel with the lamp		**(1)**
(a)(iii)	A description including • resistance changed (1) • reduced/decreased/lowered (1) **OR** • voltage/p.d /EMF (of supply) changed (1)	remove (variable) resistor /component X (2) number of batteries/number of cells add another cell/battery/battery pack/power pack/power supply (2)	**(2)**

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	• increased /turned up/higher(1)		
(b)(i)	both points correct (1)	allow + / - half square	**(1)**
(b)(ii)	curve of best fit judged by eye (1) 	Must pass through zero and two other points. 5th point can be either (8.0,0.42) or (8.0, 0.44) straight line of best fit through origin tolerance between lines A and B shown on the diagram  5th point can be either (8.0,0.42) or (8.0, 0.44)	**(1)**
(c)	substitution (1) 10/0.44 or 250/11 evaluation (1) 23 (ohms)	give full marks for correct answer, no working 22.7(ohms),22.73 (ohms), 22.72(ohms) Ignore excessive decimal places.	**(2)**
(d)(i)	an explanation linking two of the following points • electric(al)(energy) (1) • (is converted) to heat / thermal (energy) (1) • (is converted) to light (1)	electricity	**(2)**

Total marks for question =10

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Q3.

Question number	Answer	Additional guidance	Mark
i	Wire X .....earth.....(1) Wire Y .....live..... (1)	accept 'life'	(2) AO1

Question number	Answer	Additional guidance	Mark
ii	Component Z ....fuse..... (1)		(1) AO1

Q4.

Question	Answer	Mark
(i)	**A** earth ***B, C and D*** *would not help to protect from shock*	(1) AO1.1

Question	Answer	Additional guidance	Mark
(ii)	an explanation linking **two** from:	ignore references to p.d./voltage current is greater than fuse	(2) AO1.1
	if the current is too large (1) (fuse) melts/breaks (1) switches off (current/circuit) (1)	value/size/rating blows stops current OR stops flow of charge	

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