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

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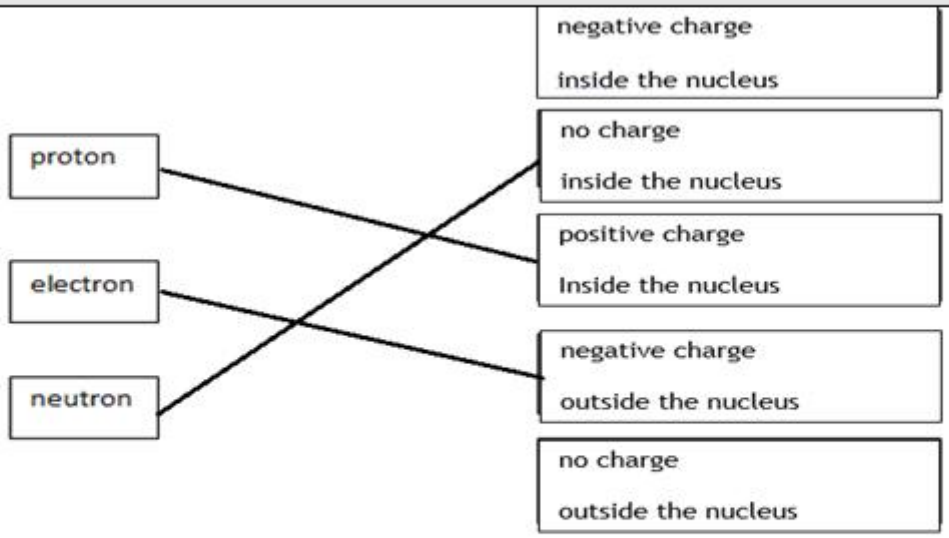
Name of the Student:_____
Max. Marks : 20 Marks **Time : 20 Minutes**

Mark Schemes

Q1.

Question Number	Answer	Mark
	 One mark for each correct line. More than one line from a box on the left loses the mark for that box.	(3)

Q2.

Question number	Answer	Mark
	1.4 (A)	(1) AO2

Q3.

Question number	Answer	Additional guidance	Mark
	an explanation linking any **three** from: lamp in second circuit is dimmer (than lamp in first circuit) (1) current in second circuit is less (than in first circuit) (1) potential difference / voltage across each lamp (in second circuit is) less / shared (1) idea that power of each lamp (in second circuit) is less / shared (1) the (total) resistance of the second circuit is more (than in first circuit) (1)	accept reverse arguments throughout	**(3)** **A01**

Q4.

Question number	Answer	Mark
(i)	either power = (current)^2 × resistance or $P = I^2 \times R$	(1)

Question number	Answer	Additional guidance	Mark
(ii)	substitution into $P = I^2 \times R$ (1) $55 = 4.4^2 \times R$ rearrangement (1) $R = P \div I^2$ evaluation (1) 2.8 (Ω)	Substitution and re-arrangement in either order $R = 55 \div 4.4^2$ for 2 marks allow answers that round to 2.8 award full marks for correct answer without working allow alternative route $V = P \div I = 55 \div 4.4$ then $R = V \div I = 12.5 \div 4.4$	(3)

Q5.

Question number	Answer	Additional guidance	Mark
(i)	0.9 (v)	0.90 ignore units ignore calculations	**(1)**

Question number	Answer	Additional guidance	Mark
(ii)	substitution (1) $R = \frac{2.1}{0.041}$ evaluation (1) R = 51(.2) (Ω) (which is approx. 50 (Ω))	allow (V) = 0.041 x 50 V = 2.05 (v) (which is approx. 2.1) allow R = 51(.2) (Ω) with no working for 2 marks	**(2)**

Question number	Answer	Additional guidance	Mark
(iii)	recall and substitution (1) (P) = 2.1 x 0.041 evaluation (1) (P =) 0.086 (W)	 allow any value that rounds to 0.086; e.g. 0.0861 (W) 0.09 (W) award full marks for the correct answer without working allow POT error for 1 mark	**(2)**

Question number	Answer	Additional guidance	Mark
(iv)	recall that effective resistance = sum of individual resistances (1) (resistance =) 50 + 22 evaluation (1) 72 (Ω)	 51 + 22 73 (Ω) award full marks for the correct answer without working	**(2)**

Question number	Answer	Additional guidance	Mark
(v)	substitution (1) (E =) 3.0 x 0.041 x 2 (x60) evaluation (1) 15 (J)	 accept values that round to 15; e.g. 14.76 award full marks for the correct answer without working award 1 mark for answer of 0.246 (J) or 0.25 (J) without working	**(2)**