

**Eduqas Physics GCSE Topic
7.4: Domestic electricity
Mark Schemes for Questions by topic**

1.

Question number	Answer	Notes	Marks
7 (a) (i)	can all be switched separately ; others stay alight when 1 bulb blows/eq;		2
(ii)	One of - to prevent overheating in the circuit / appliance/ wiring/ lamps; to switch off the circuit; to prevent current exceeding a certain value;	IGNORE live wire/plug	1
(iii)	(if or when) current exceeds stated value/current too high; the fuse (over heats and) melts; this breaks the circuit/stops the current/ turns the circuit off;	allow "fuse blows" ignore burns ignore 'stops the electricity'	3

Question number	Answer	Notes	Marks
7 (b) (i)	$P = I \times V$;	Allow <ul style="list-style-type: none"> rearrangements standard abbreviations equation in words 	1
(ii)	rearrangement; sub into equation; evaluation; e.g. $I = P/V$ $= 250 / 230$ $= 1.1$ (A)	rearrange and sub in either order allow a power of ten (POT) error for -1	3
(iii)	value 3 (A); fuse (value should only be) a little bigger than the current;	1.09 (A) Allow ecf from bii	2
(c)	D		1

2. D, A.

3.

(a)

(i)

Earth – a wire used for safety

Insulation – does not allow current to pass in it

Live – supplies energy to the kettle

(ii) They have two layers of insulating on them.

(b) The live wire.

(c)

(i) P, because it operates on DC.

(ii) R, because it has the largest power and so the heating effect in the wires will be greatest and so more insulation is needed.

(iii) Q, because whilst still above the fuse value, it has a current value closest to it.

4.

- (i) a.c. is constantly changing direction
accept a.c. flows in two / both directions
accept a.c. changes direction(s)
a.c. travels in different directions is insufficient

1

d.c. flows in one direction only

1