Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic: Electricity (Standard demand)

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Name of the Student:_____
Max. Marks : 23 Marks **Time : 23 Minutes**

Mark Schemes

Q1.

(a) voltmeter symbol correct and connected across the resistors

1

(b) the total resistance must be less than 20 Ω

allow the total resistance cannot be more than 20 Ω

1

because the total resistance of the resistors (in parallel) is less than the resistance of the smallest resistor

allow the total resistance of the resistors (in parallel) is less than either resistor

1

(c) potential difference = current × resistance

or

$V = IR$

1

(d) 480 mA = 0.48 A

1

$V = 0.48 \times 7.5$

allow a correct substitution of an incorrectly / not converted value for current

1

$V = 3.6$ (V)

allow an answer consistent with their incorrectly / not converted value for current

1

(e) x-axis labelled Resistance of R in Ω **and** y-axis labelled Total resistance (of resistors) in Ω

1

both points plotted correctly

points must be plotted within ½ small square

1

curved line of best fit drawn

allow a line of best fit which ignores an outlier

1

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(f) reading from graph consistent with their line of best fit

allow an answer within ½ small square

1

(g) random

1

(h) in category A the body water percentage is 61%

allow a value for A between 60% and 62%

1

in category B the body water percentage is 68%

1

if in category A they have a healthy body water percentage **and** if in category B they have an unhealthy body water percentage

1

[15]

Q2.

(a) 16 500(GW) **and** 30 000 (GW) read from graph

1

percentage = $\frac{16500}{30000}$ (×100%)

allow a correct substitution using a value of 15300 or 18000 for gas

1

percentage = 55%

allow an answer consistent with a value of 15300 or 18000 for gas

1

(b) coal and gas

1

(c) the national grid

1

(d) potential difference increases

allow large potential difference

1

current is reduced

allow small current

1

so there is less / low energy loss (to the surroundings)

allow less / low heating in the transmission cables

ignore resistance

*do **not** allow no energy loss*

1

[8]

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