Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic: Forces (Standard Demand Questions)

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

Mark Schemes

Q1.

(a)

*an answer of 7 (s) gains **2** marks*

(4 − 0) + (10 − 7)
or 4 + 3
or 10 − 3

1

7 (s)

1

(b)

*an answer of 0.2 (m/s^2) gains **2** marks*

$\text{gradient} = \frac{0-2}{24-14}$

allow readings from any two points correctly substituted

1

(−) 0.2 (m/s^2)

allow correct use of $a = \frac{\Delta v}{t}$

1

(c) (there are no wires) to get tangled / disconnected

allow easier to move arms
allow wires are inconvenient
allow easier to transfer data

1

(d) wave speed = frequency × wavelength

allow $v = f\lambda$
allow any correct re-arrangement

1

(e)

*an answer of 0.125 (m) or 0.13 (m) scores **3** marks*

300 000 000 = 2 400 000 000 × λ

1

$\lambda = \frac{300\,000\,000}{2\,400\,000\,000}$

1

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λ = 0.125 (m)

allow λ = 0.13 (m)

1

(f) range is far enough (for most uses)

1

power is not too great so the battery will not drain quickly

allow power not too great so the phone will not overheat

allow the range per milliwatt is greatest or 4 metres

1

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Q2.

(a) its acceleration would decrease to zero

1

the resultant force on it would decrease to zero

1

(b) any **one** from:

- move the second light gate closer to the first
- shorten the string length

allow use a taller table

1

(c) 1.26667 (m/s^2) (is wrong)

allow (mean value calculated at) 0.20 (N)

1

give value to 2 significant figures

allow give value to 1 decimal place

allow 1.3 (m/s^2)

1

6.7 (m/s^2) (is wrong)

allow (mean value calculated at) 0.98 (N)

allow test 2 for 0.98 (N) or 7.2 is an anomaly

1

discard the anomalous result and recalculate the mean

allow repeat the anomalous test result and re-calculate the mean

allow 6.4 (m/s^2)

1

each mistake and its correction may be given in any order

(d) (resultant) force is directly proportional to acceleration

allow the larger the (resultant) force, the greater the acceleration

allow positive correlation between (resultant) force and acceleration

allow mass / weight (of the holder) for (resultant) force

1

(e) all points correctly plotted within ½ small square

*allow **1** mark for 3 or 4 points correctly plotted*

2

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curved line of best fit

1

(f) inversely proportional

allow as mass increases, acceleration decreases

1

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