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

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Name of the Student:_____
Max. Marks : 21 Marks **Time : 21 Minutes**

Mark Schemes

Q1.

(a) a quantity with both magnitude and direction

1

(b) displacement

1

(c) gradient = $\frac{(4-0)}{(1.6-0)}$

1

acceleration = 2.5 m/s^2

allow use of $a = \Delta v / t$

1

(d) constant deceleration

allow large deceleration allow decelerates to a stop

1

(e) resultant force = mass × acceleration
or
F = ma

allow force = mass × acceleration

1

(f) 1800 = m × 25

1

$m = \frac{1800}{25}$

1

m = 72 (kg)

1

(g) performance can be monitored during the game

allow do not have to wait until the end of the game to download data

1

[10]

Q2.

(a)

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

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(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

λ = 0.125 (m)

allow $\lambda = 0.13$ *(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

[11]

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