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

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

Mark Schemes

Q1.

(a) inertia

1

(b)

1

(c) increase the current

allow use a stronger magnet

1

so that the (resultant) force increases

1

(d) bring the (same end of the) iron bar close to each pole / end of the permanent magnet

allow bring each end of the iron bar to the same pole of the magnet

1

any repulsion shows the iron bar is a permanent magnet

or

if one end of the iron bar is attracted to both poles it is not a permanent magnet

1

(e) the compass (needle always) points in the same direction

allow the compass (needle always) points north

1

because it aligns itself with the Earth's magnetic field

dependent on MP1

1

[8]

Q2.

(a) $W \propto e$

1

(b) $750 = k \times 0.060$

1

$$k = \frac{750}{0.060}$$

allow a correct rearrangement using an incorrectly / not

converted value of e

1

k = 12 500 N/m

allow a correct calculation using incorrectly / not converted value of e

1

(c) (an object that is inelastically deformed) will not go back to its original length

allow shape for length

1

when the force is removed

1

(d) $1800 = ½ \times 225 \times e^2$

1

$e = \sqrt{\frac{2 \times 1800}{225}}$

allow $e^2 = \frac{2 \times 1800}{225}$

1

e = 4 (m)

allow e = 4.0 (m)

1

(e) $e = \frac{750}{225}$

1

e = 3.3... (m)

1

the extension will be too great so not suitable for use in the chair

allow a conclusion consistent with their calculated extension

OR

F = 225 x 0.3 (1)

F = 67.5 (N) (1)

the weight of a person will be too great so (spring is) not suitable for use in the chair (1)

allow the chair would rest on the ground

allow the spring will not stretch beyond its elastic limit

1

[12]