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

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

Mark Schemes

Q1.

(a) (i) the point where the mass is (thought to be) concentrated

1

(ii) the centre of mass is higher

1

the base (area) is smaller / narrower

1

(b) (the blocks at A and B) create equal and opposite moments

1

the resultant moment is zero

accept (moments are in) equilibrium / balanced

or
the block at A creates an anti-clockwise moment (1)
so this must be balanced by an equal clockwise moment from the block at B (1)

1

[5]

Q2.

(a) (i) any **two** from:

- length of coils increased
- coils have tilted
- length of loop(s) increased
- increased gap between coils
- *spring has stretched / got longer*
- *spring has got thinner*

2

(ii) remove mass

accept remove force / weight

1

observe if the spring returns to its original length / shape *(then* it is behaving elastically)

1

(b) (i) 8.0 (cm)

1

extension is directly proportional to force *(up to 4 N)*

for every 1.0 N extension increases by 4.0 cm (up to 4 N)

evidence of processing figures eg 8.0 *cm* is half way between 4.0 *cm* and 12.0 *cm*

1

allow spring constant (k) goes from to $\frac{1}{4}$ to $\frac{5}{22}$

1

(ii) any value greater than 4.0 N and less than or equal to 5.0 N

1

the increase in extension is greater than 4 cm per 1.0 N (of force) added
dependent on first mark

1

(c) (i) elastic potential energy

1

(ii) misread stopwatch

1

timed too many complete oscillations

1

(iii) 4.3 (s)
accept 4.33 (s)

1

(iv) stopwatch reads to 0.01 s

1

reaction time is about 0.2 s
or
reaction time is less precise than stopwatch

1

(v) use more masses

1

smaller masses eg 50 g
not exceeding limit of proportionality

1

[17]