Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic: GCSE Triple Science_ENERGY (High Demand Questions)

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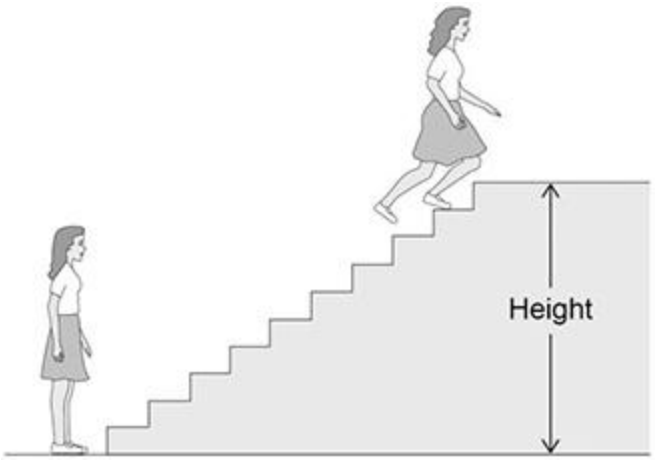
Name of the Student:_____
Max. Marks : 16 Marks **Time : 16 Minutes**

Q1.

The figure below shows a girl doing an experiment to determine her power output by running to the top of some stairs.



(a) The mass of the girl was 60.0 kg.

The height of the stairs was 175 cm.

The girl ran to the top of the stairs in 1.40 s.

gravitational field strength = 9.8 N/kg

Calculate the power output of the girl.

Use the Physics Equations Sheet.

_____

_____

_____

_____

_____

_____

_____

Power = _____ W

(5)

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(b) The **total** power output of the girl was greater than the answer to part (a).

Suggest **two** reasons why.

1. _____

_____

2. _____

_____

(2)

(c) A boy took more than 1.40 s to run up the same stairs.

The power output of the boy was the same as the power output of the girl.

What conclusion can be made about the boy's mass?

Tick (✓) **one** box.

The boy's mass was greater than the girl's mass. ☐

The boy's mass was lower than the girl's mass. ☐

The boy's mass was the same as the girl's mass. ☐

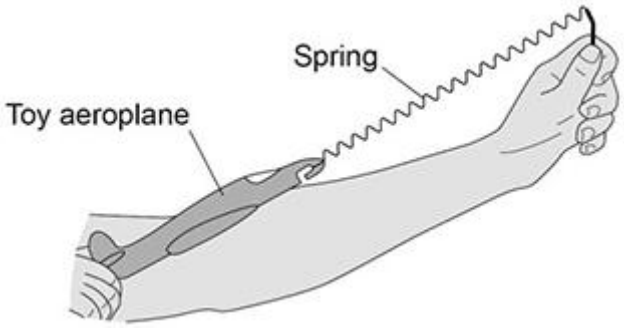
(1)

(Total 8 marks)

Q2.

The figure below shows a student launching a toy aeroplane.

To launch the aeroplane, the student pulls on it to stretch the spring and then releases it.



(a) Just before the toy aeroplane is released, the spring has an extension of 0.12 m.

mass of aeroplane = 0.020 kg

spring constant of the spring = 50 N/m

Calculate the maximum speed of the toy aeroplane just after it is launched.

Use the Physics Equations Sheet.

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Give the unit.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Speed = _____ Unit _____

(6)

(b) Complete the sentence.

As the aeroplane moves upwards through the air there is a decrease

in the _____ energy of the aeroplane.

(1)

(c) Give **one** factor which would increase the distance the toy aeroplane travels horizontally before hitting the ground.

_____

_____

(1)

(Total 8 marks)

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