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

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

Q1.

Momentum is a vector quantity.

(a) How is a vector quantity different to a scalar quantity?

_____

_____

(1)

(b) Name another vector quantity.

_____

(1)

(c) Give the definition of momentum.

_____

_____

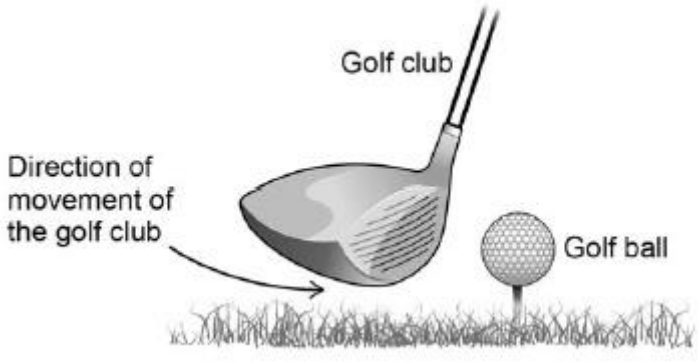
(1)

(d) What is the unit of momentum?

_____

(1)

(e) The image shows a golf club about to hit a stationary golf ball.



The golf club is in contact with the golf ball for 1.8 ms and exerts a force of 1500 N on the golf ball.

The mass of the golf ball is 0.045kg

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Calculate the velocity of the golf ball as it leaves the golf club.

Velocity = _____ m/s

(4)

(f) When hitting the golf ball the golfer swings the golf club to keep it in contact with the golf ball for as long as possible.

The force acting on the golf ball is constant during this time.

Explain the effect that the time of contact between the golf club and the golf ball has on the distance the golf ball travels.

(4)

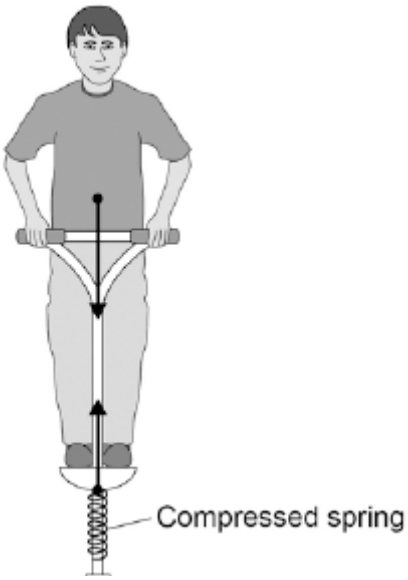
(Total 12 marks)

Q2.

The figure below shows the forces acting on a child who is balancing on a pogo stick.

The child and pogo stick are not moving.

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(a) The downward force of the child on the spring is equal to the upward force of the spring on the child.

This is an example of which one of Newton's Laws of motion?

Tick **one** box.

First Law ☐

Second Law ☐

Third Law ☐

(1)

(b) Complete the sentence.

Use an answer from the box.

elastic potential	**gravitational potential**
kinetic	

The compressed spring stores _____ energy.

(1)

(c) The child has a weight of 343 N.

Gravitational field strength = 9.8 N / kg

Write down the equation which links gravitational field strength, mass and weight.

_____

(1)

(d) Calculate the mass of the child.

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_____

_____

_____

Mass = _____ kg

(3)

(e) The weight of the child causes the spring to compress elastically from a length of 30cm to a new length of 23cm.

Write down the equation which links compression, force and spring constant.

_____

(1)

(f) Calculate the spring constant of the spring.

Give your answer in newtons per metre.

_____

_____

_____

Spring constant = _____ N / m

(4)

(Total 11 marks)

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