Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic : 2_Motion and Forces

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Name of the Student:_____
Max. Marks : 19 Marks **Time : 19 Minutes**

Q1.

The force that keeps an object moving in a circular path is known as the

(1)

- ☒ **A** balancing force
- ☒ **B** centripetal force
- ☒ **C** reaction force
- ☒ **D** resistance force

(Total for question = 1 mark)

Q2.

(a) A cyclotron accelerates charged particles.

(i) Describe the shape of the path a charged particle takes in the cyclotron.

(1)

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(ii) Explain how radioactive isotopes can be produced using cyclotrons.

(3)

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(b) (i) Complete the sentence by putting a cross (☒) in the box next to your answer.

In an **inelastic** collision there is conservation of

(1)

- ☒ **A** kinetic energy
- ☒ **B** momentum
- ☒ **C** kinetic energy and momentum
- ☒ **D** velocity

(ii) State why momentum has the unit kg.m/s.

(1)

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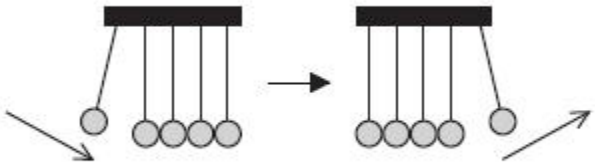
*(iii) Different types of collision are shown in the diagrams.
Analyse both collisions in terms of momentum and kinetic energy.

collision 1



collision 2

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(Total for Question = 12 marks)

Q3.

* Newton's second law can be stated as

force = mass × acceleration

A student is provided with a trolley and a runway on a bench, as shown in Figure 12, and access to other equipment.

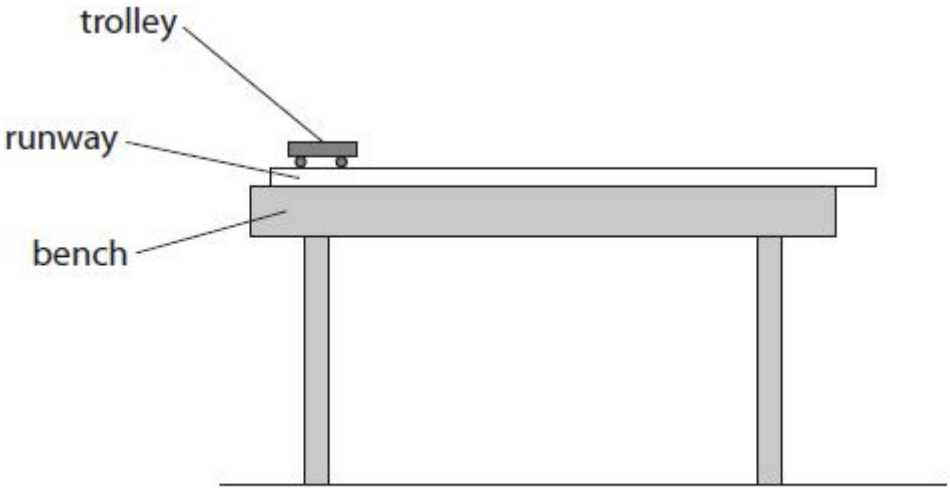

Figure 12

Describe a procedure the student could use to investigate how the acceleration of the trolley depends on the

force applied to the trolley.

You may add to the diagram in Figure 12 to help your answer.

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(Total for question = 6 marks)