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

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

Q1.

The following statements describe parts of a short train journey between two railway stations.

Part A: The train accelerates at a constant rate from 0 m/s to 20 m/s in 40 s

Part B: The train travels at a constant velocity for 260 s

Part C: The train decelerates at a constant rate coming to a stop in 60 s

(a) During which part of the journey is the resultant force on the train zero?

Tick (✓) **one** box.

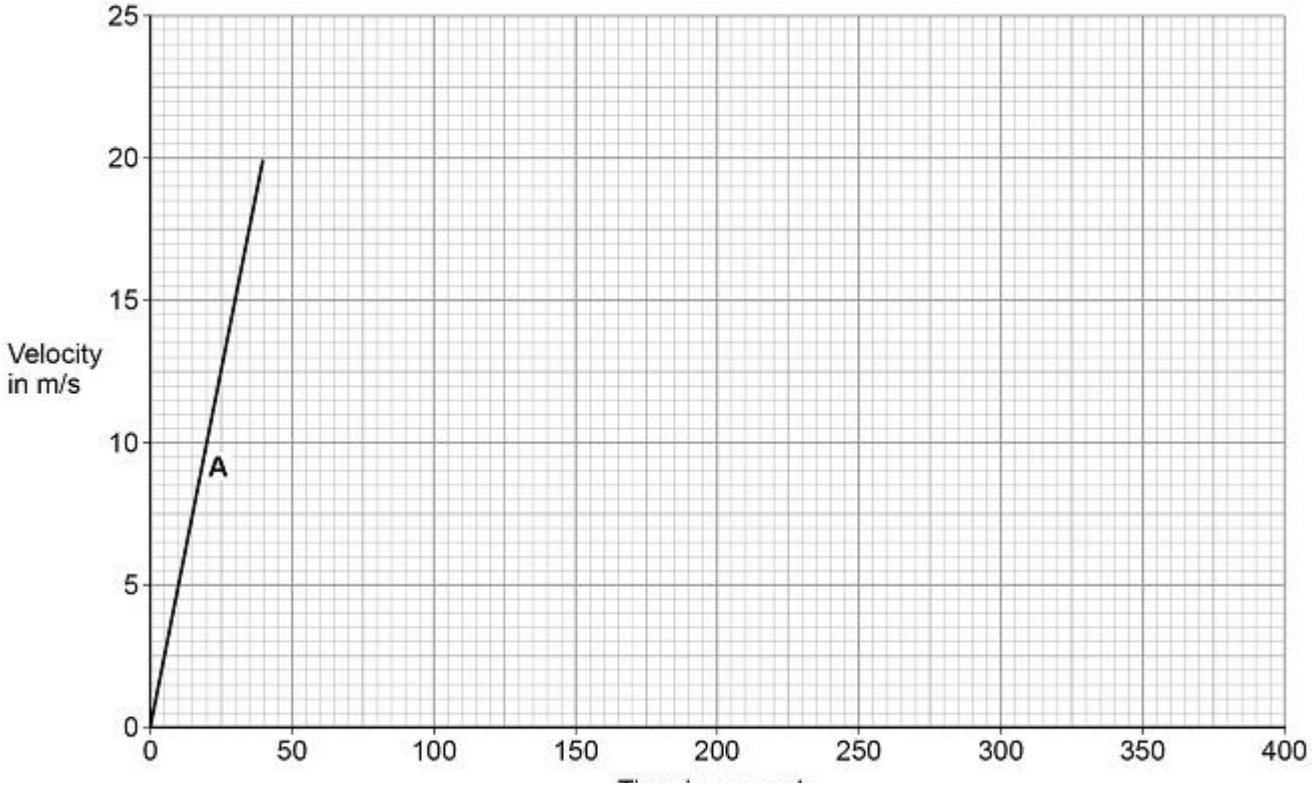
A ☐ **B** ☐ **C** ☐

(1)

(b) **Figure 1** shows part of the velocity-time graph for the train journey.

Complete **Figure 1** showing part **B** and part **C** of the train journey.

Figure 1



(3)

(c) Write down the equation which links acceleration, change in velocity and time taken.

_____

(1)

(d) Another train accelerated at 1.15 m/s^2 for 22.0 s

Calculate the increase in velocity of the train.

_____

_____

_____

Increase in velocity = _____ m/s

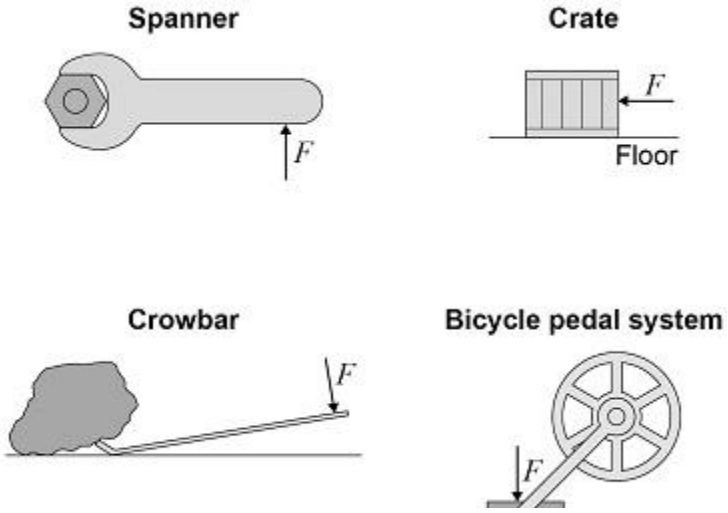
(3)

(Total 8 marks)

Q2.

(a) **Figure 1** shows four examples of a force causing an object to move.

Figure 1



Which object is **not** likely to rotate?

Tick (✓) **one** box.

- Bicycle pedal system ☐
- Crate ☐
- Crowbar ☐
- Spanner ☐

(1)

Figure 2 shows a simple device that can be used as a weighing scale.

Figure 3 shows the device being used to measure a quantity of rice.

The weight of the device is balanced by the weight of the rice and basket.

Figure 2

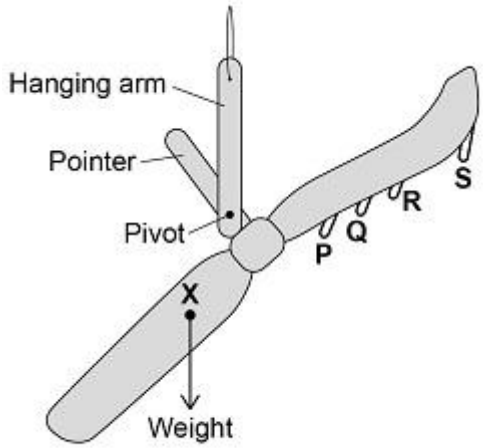
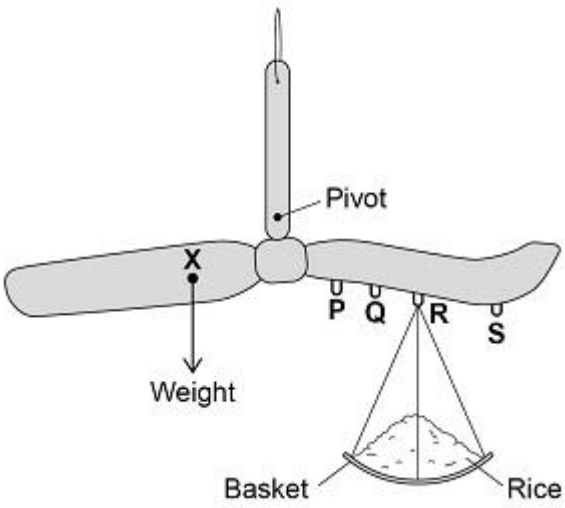


Figure 3



(b) The weight of the device acts through the point labelled **X**.

What is point **X** called?

Tick (✓) **one** box.

Centre of balance ☐

Centre of mass ☐

Centre of weight ☐

(1)

(c) How does **Figure 3** show that the weight of the device is balanced by the weight of the rice and basket?

_____

_____

_____

(1)

(d) The basket can hang from different points on the device.

Where should the basket hang to measure the largest quantity of rice?

Tick (✓) **one** box.

P ☐ **Q** ☐ **R** ☐ **S** ☐

(1)

(e) Write down the equation which links distance, force and moment of a force.

_____

(1)

(f) In **Figure 3**, the weight of the device causes an anticlockwise moment of 0.15 Nm about the pivot.

The weight of the rice and basket acts 0.06 m from the pivot.

Calculate the weight of the rice and basket.

_____

_____

_____

_____

Weight of rice and basket = _____ N

(3)

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

_____

(1)

(h) The basket has a mass of 0.04 kg

gravitational field strength = 9.8 N/kg

Calculate the mass of rice in the basket.

_____

_____

_____

_____

Mass = _____ kg

(3)

(Total 12 marks)