Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic : 8_Energy Forces Doing Work

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Name of the Student:_____

Max. **Marks : 12 Marks**   **Time : 12 Minutes**

Q1.

A pilot begins to land an aircraft.
The height of the aircraft decreases from 200 m above the ground to 100 m.

(i) What happens to the gravitational potential energy of the aircraft?

Put a cross (☒) in the box next to your answer.

(1)

☒   **A**   it becomes zero

☒   **B**   it decreases

☒   **C**   it does not change

☒   **D**   it increases

(ii) The velocity of the aircraft remains constant.

What happens to the kinetic energy of the aircraft?

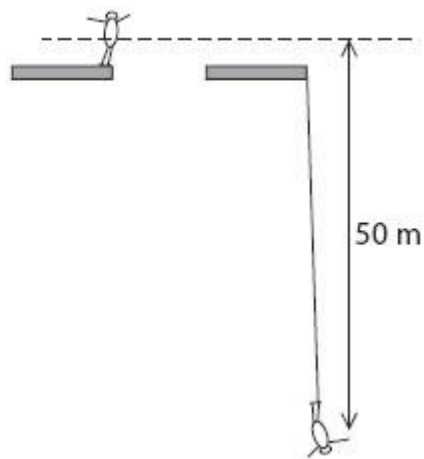Put a cross (☒) in the box next to your answer.

(1)

☒   **A**   it becomes zero

☒   **B**   it decreases

☒   **C**   it does not change

☒   **D**   it increases

Q2.

A 60 kg student weighs 600 N.
He does a bungee jump.

The bungee cord becomes straight and starts to stretch when he has fallen 50 m.

(i) Calculate the change in gravitational potential energy as the student falls 50 m. Give the unit.

(3)

....

(ii) State at what point in the bungee jump the student has maximum kinetic energy.

(1)

....

....

(iii) Explain why his maximum kinetic energy is likely to be less than your answer to (c)(i).

(2)

....

....

....

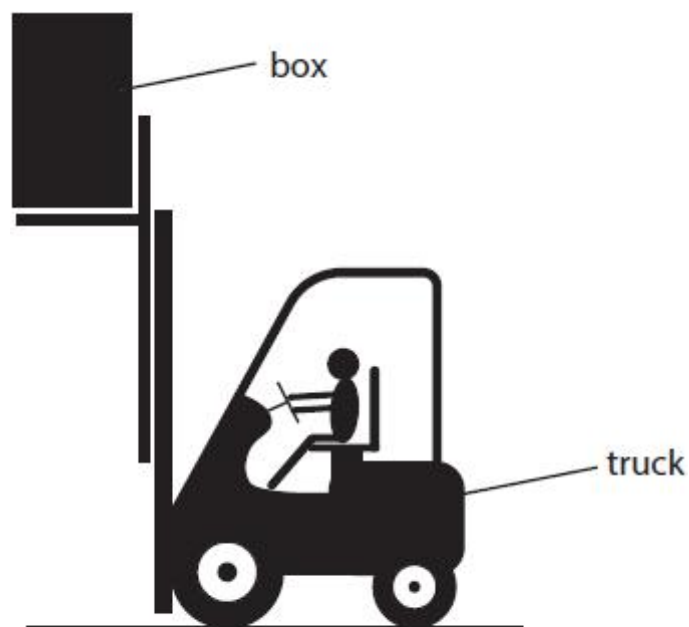**Q3.**

Figure 6 shows a truck lifting a box.

Figure 6

A student calculates the change in gravitational potential energy, ΔGPE, for the box at different heights.
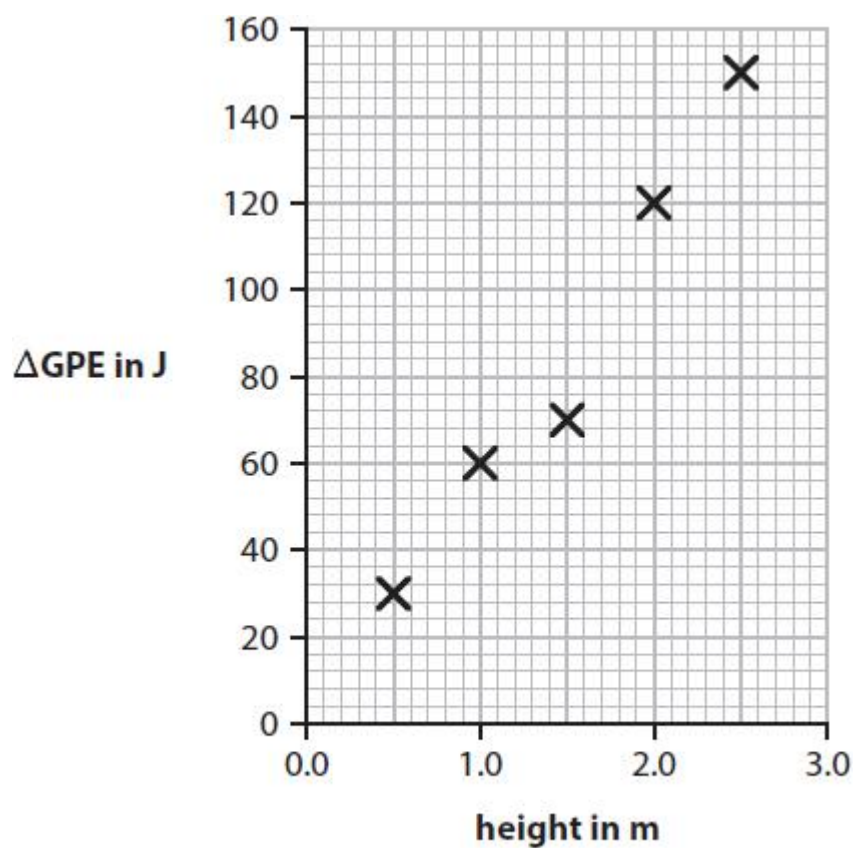
Figure 7 shows the results of the student's calculations.

Figure 7

(i) The student has made one incorrect calculation.

On Figure 7, draw a circle round the ✖ for this incorrect calculation.

(1)

(ii) The truck lifts the box from the ground to a height of 2.0 m.

This takes a time of 5.0 s.
Using data from the graph in Figure 7, calculate the power needed to lift the box.

Use the equation

$$power = \frac{\Delta GPE}{time}$$

power = ... W

(Total for question = 4 marks)