AQA 🍃

General Certificate of Education
Advanced Level Examination
June 2015

Physics   PHY6T/Q15/task

ISA (Q)   Oscillations of a Spring–Supported Beam

Task Sheet

This task is worth 7 marks

You are advised to read through these instructions before beginning your work.

You are going to carry out an experiment to measure the period of the oscillations of a metre ruler which is supported by two springs with the same spring constant. You will do this for a range of masses m.

- The apparatus is set up as shown in **Figure 1**. Make adjustments so that the springs support the ruler 10 cm from each end and the 100 g mass hanger is suspended at the 50 cm mark on the ruler.

- Adjust each clamp so the ruler is horizontal and the springs are vertical (check this carefully).

- Press the ruler downwards slightly so that it remains horizontal and then release it so that it oscillates in a **vertical** plane.

- Take measurements to determine the period T of these oscillations.

- Add a 100 g mass to the hanger and repeat the procedure up to a total mass of 600 g.

- Tabulate all your data and include a column for T^2.

- Plot a graph of T^2 on the vertical axis against m and draw a straight line of best fit.

Turn over ▶

Figure 1
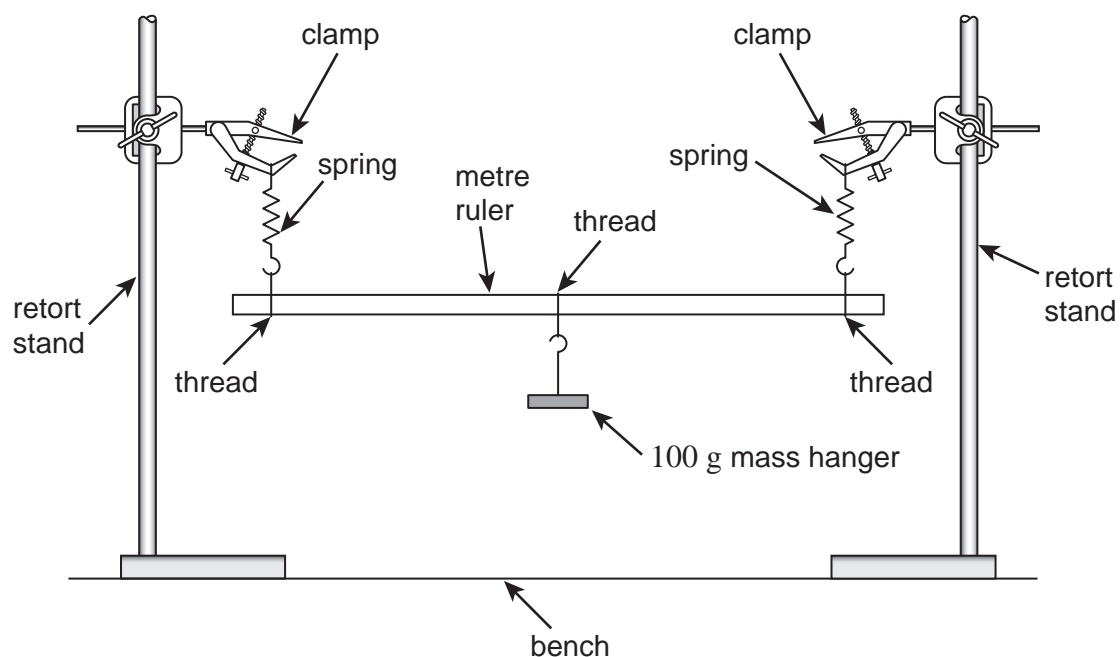
After the Investigation

At the end of the investigation, hand in all your written work, including the graph and recorded results, to the supervisor.

This documentation will be required for Stage 2 of the ISA. Ensure that you have entered your centre details, candidate number and name on all the sheets you have completed.