

GCSE Physics A (Gateway)

J249/02 Physics A P5-P8 and P9 (Foundation Tier)

Question Set 13

1 (a) Fig. 1.1 is a graph of a wave.

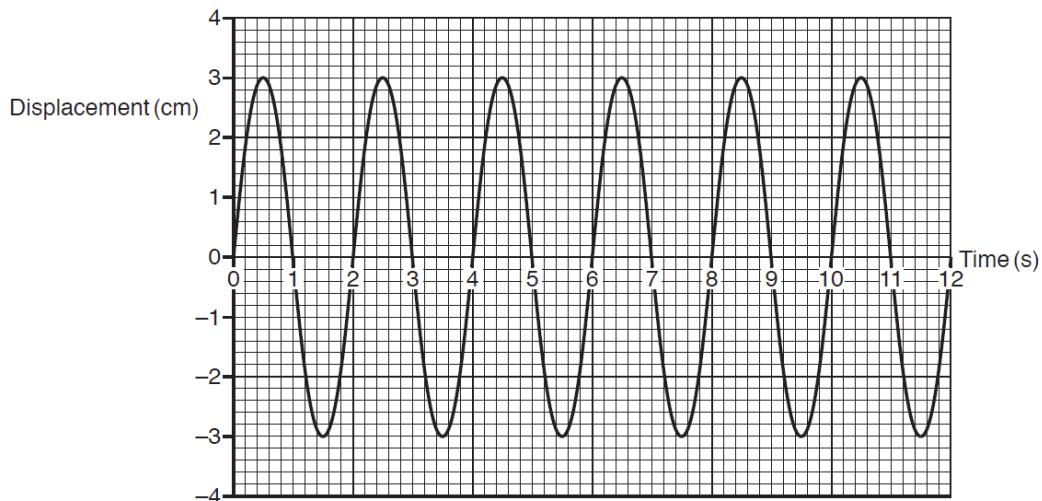


Fig. 1.1

(i) Use the graph in Fig. 1.1 to work out the time period of the wave.

Time period of the wave = s

[1]

(ii) Use the graph in Fig. 1.1 to work out the amplitude of the wave.

Amplitude = cm

[1]

(iii) The frequency of the wave in Fig. 1.1 is 0.5 Hz.

What is meant by the term **frequency**?

[1]

(ii) Use the graph in Fig. 1.1 to work out the amplitude of the wave.

Amplitude = cm

[1]

(b) A water wave has a frequency of 0.25 Hz and a wavelength of 6.0 m.

Calculate the speed of the wave.

Speed of the wave = m/s

[1]

(c) Surface water waves can be modelled using a slinky spring.

A student holds one end of the spring on a table. The other end is fixed to a wall.

Fig. 1.2 shows the spring viewed from above the table.

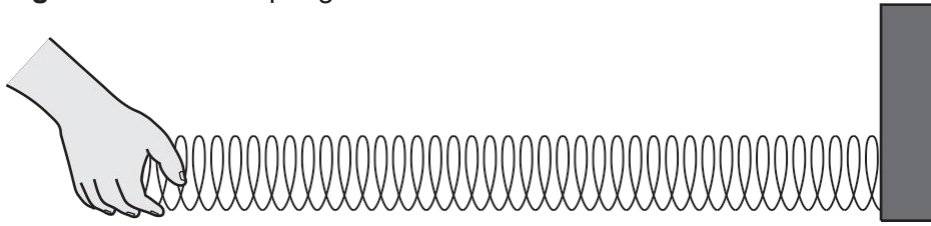


Fig. 1.2

(i) Draw two arrows **on the diagram** in Fig. 1.2 to show the movement of the student's hand when he makes a transverse wave.

[1]

(ii) Describe what happens to the **transverse** wave at the wall.

[1]

(iii) In Fig. 1.3 the student stops moving his hand.

This is what the coils in the spring look like after a short time:

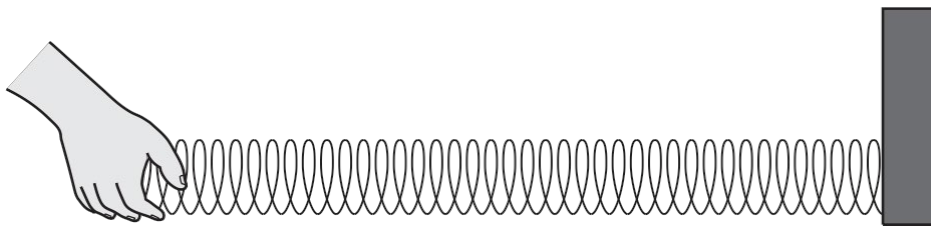


Fig. 1.3

This model of a water wave shows that the wave travels **not** the water.

Explain why.

[1]

Total Marks for Question Set 13: 9

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