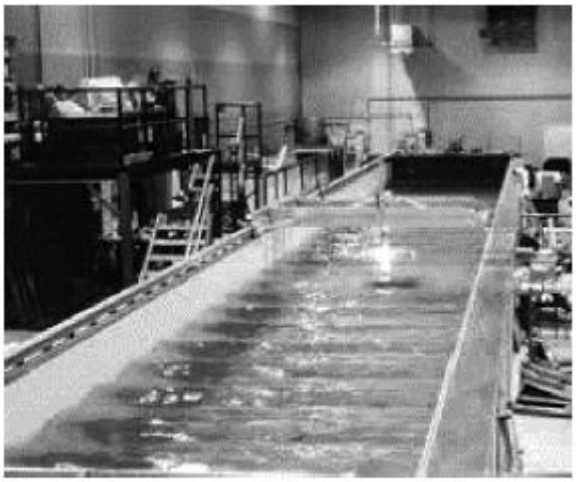
Name of the Student:_____
Max. Marks : 15 Marks **Time : 15 Minutes**

Q1.

Figure 6 shows a large tank of water.



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Figure 6

The tank of water is used to study water waves.

(i) Water waves are transverse waves.

Give another example of a transverse wave.

(1)

.....

(ii) Figure 7 shows a side view of part of the tank.

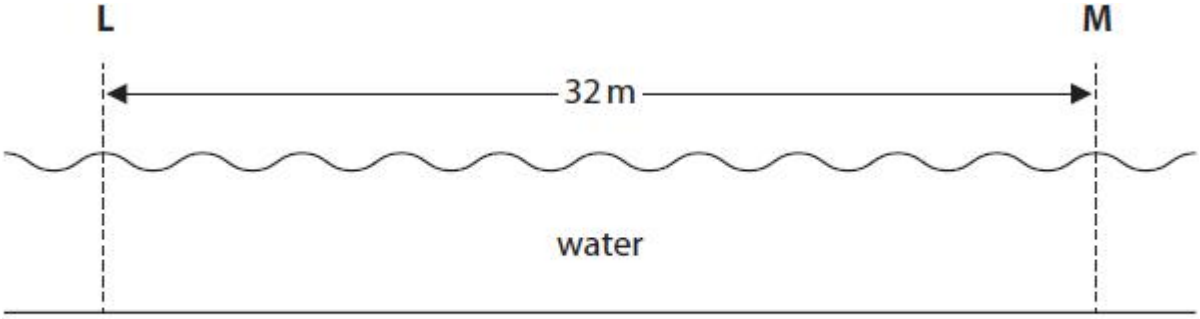


Figure 7

A water wave is moving from **L** to **M**.
Calculate the wavelength of the wave.

(2)

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wavelength = ... m

(iii) A technician stands at the side of the tank.

He counts the peaks of the waves as they pass him.
12 peaks pass the technician in a time of 15 s.
Calculate the frequency of the wave.

(2)

frequency = ... Hz

(Total for question = 5 marks)

Q2.

Water waves are transverse waves.

(i) Give **one** other example of a transverse wave.

(1)

.....

(ii) Give **one** example of a longitudinal wave.

(1)

.....

(Total for question = 2 marks)

Q3.

Figure 2 shows a water wave.

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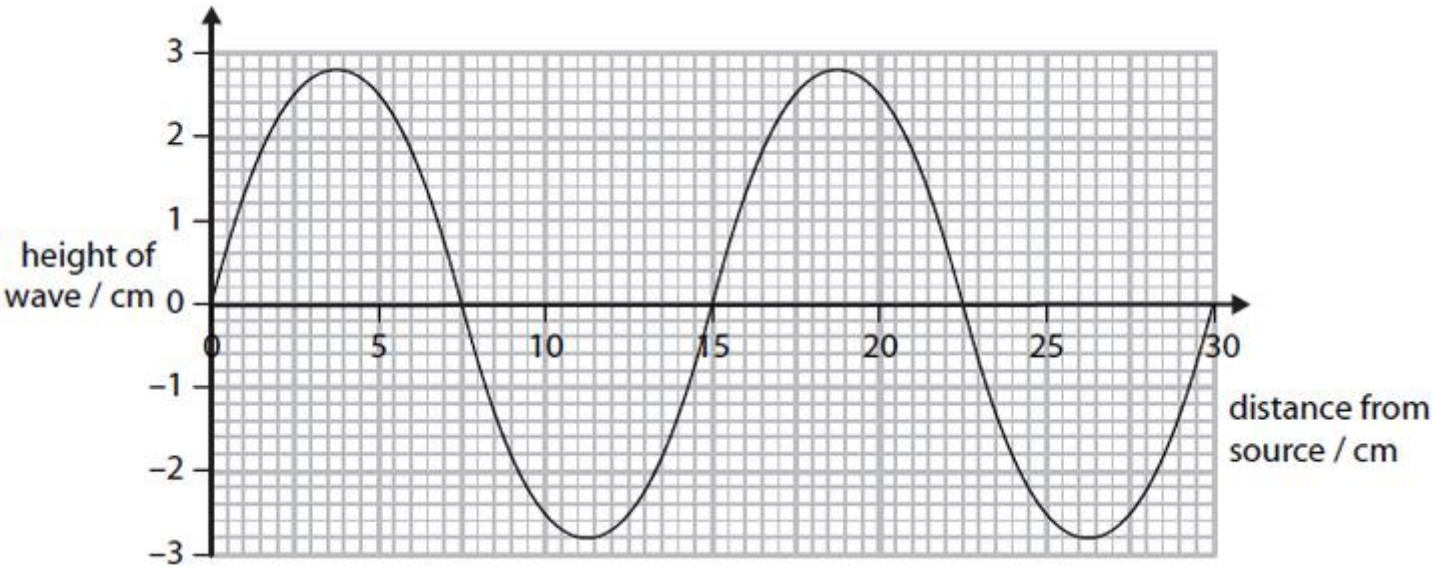


Figure 2

(i) What is the amplitude of this wave?

(1)

- ☒ **A** 2.8 cm
- ☒ **B** 5.6 cm
- ☒ **C** 7.5 cm
- ☒ **D** 15 cm

(ii) What is the wavelength of this wave?

(1)

- ☒ **A** 2.8 cm
- ☒ **B** 7.5 cm
- ☒ **C** 15 cm
- ☒ **D** 30 cm

(Total for question = 2 marks)

Q4.

A man throws a stone into a pond.

The stone makes waves that spread out in circles.

Figure 4 shows some of the waves.

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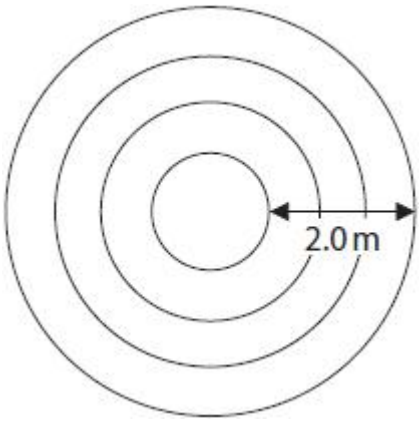


Figure 4

(i) Which of the following changes is correct as the waves spread out?

(1)

- ☒ **A** the amplitude is higher
- ☒ **B** the frequency is higher
- ☒ **C** the wavefront is longer
- ☒ **D** the period is longer

(ii) The stone hits the water 4.0 m from the bank.

The wave speed is 0.70 m/s.
Calculate the time for the wave to reach the bank.

(2)

time = ... s

(iii) The wavelength of the waves is the distance between one wavefront and the next.

Use the diagram to find the wavelength of the waves.

(1)

wavelength = ... m

(iv) There is a cork which bobs up and down in the water as the wave goes past.

Explain how this shows that the wave is transverse.

(2)

.....

.....

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.....

.....

(Total for question = 6 marks)

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