Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic : 4_ Waves

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

Q1.

Figure 6 shows a large tank of water.

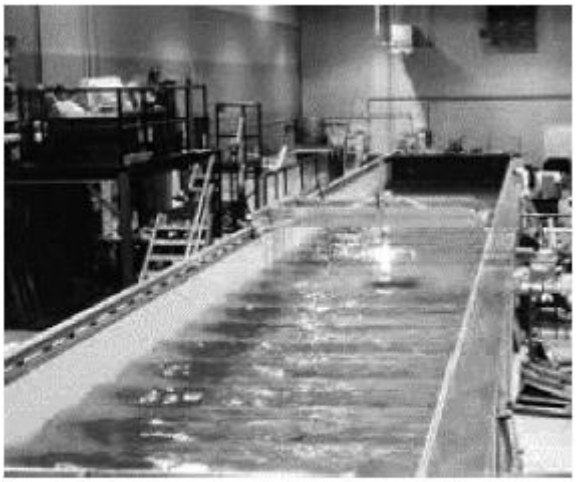

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Figure 6

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.

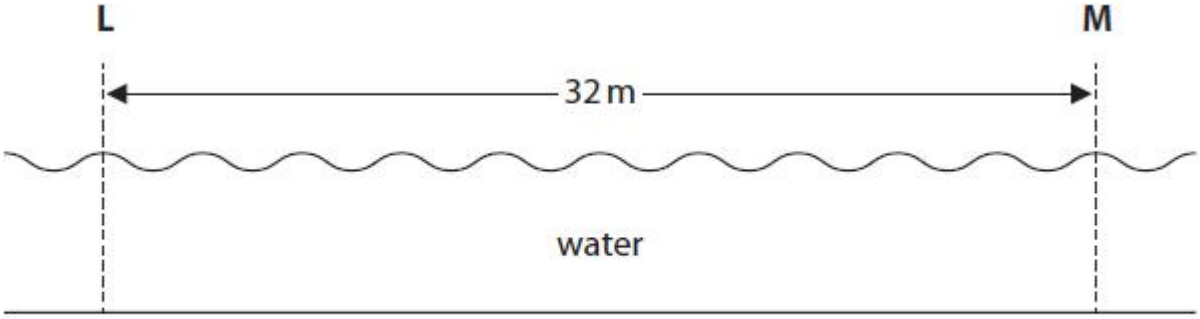

Figure 7

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

(2)

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.

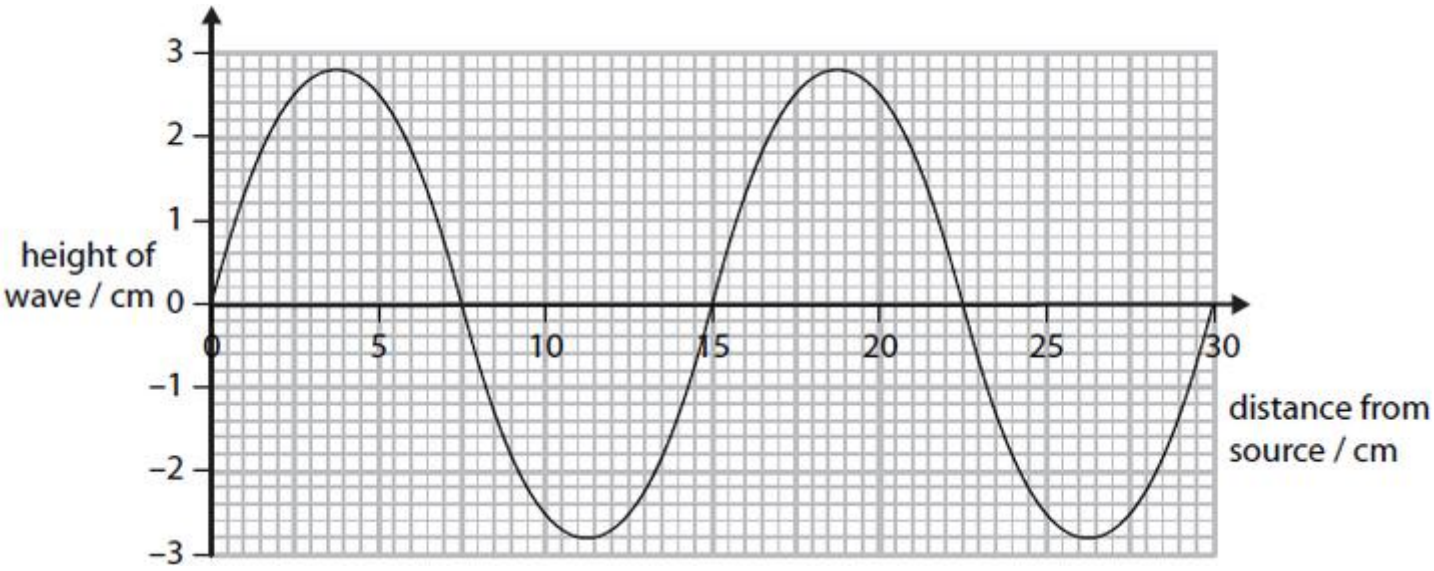

Figure 2

(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.

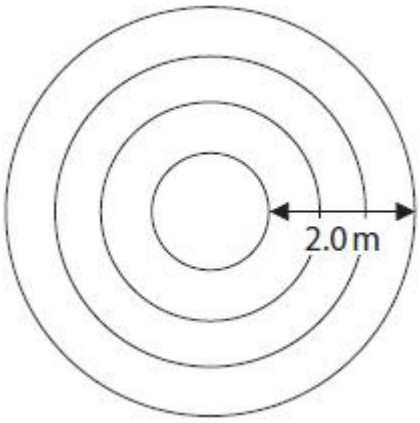

Figure 4

(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)

.....

.....

.....

.....

(Total for question = 6 marks)