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

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Name of the Student:_____
Max. Marks : 18 Marks **Time : 18 Minutes**

Q1.

Geologists use sound waves from a small explosion to search for oil underground.

Complete the sentence by putting a cross (☒) in the box next to your answer.

(i) These sound waves are called

(1)

☒ **A** cosmic waves
☒ **B** seismic waves
☒ **C** volcanic waves
☒ **D** tectonic waves

(ii) A small explosion is triggered at the Earth's surface.
The waves reflect back from the top of the oil field.

Suggest why the waves are reflected from the oil field.

(1)

.....

Q2.

Figure 4 is a diagram of a water wave.

A cork is floating on the water.

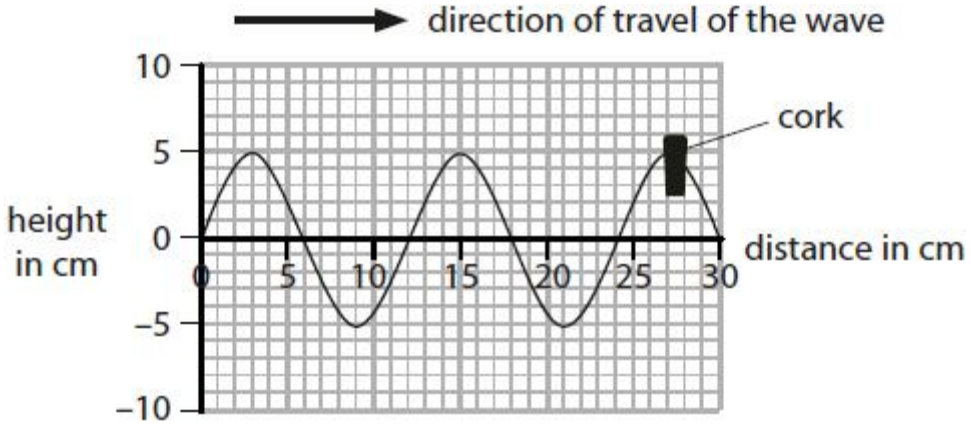

Figure 4

(i) Use the scale on the diagram to measure the wavelength of the wave.

(2)

wavelength = ... cm

(ii) Describe the motion of the cork.

You should include how the cork moves relative to the direction of travel of the wave.

(2)

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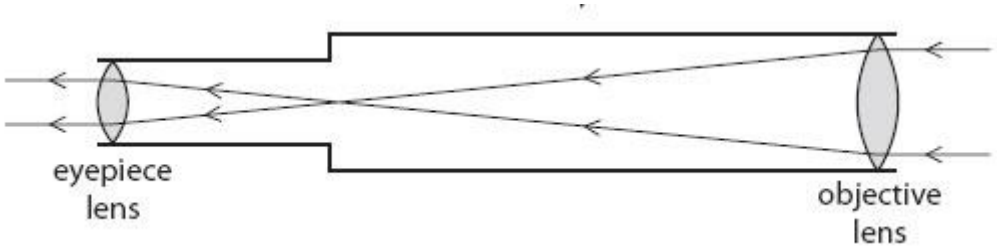
(Total for question = 4 marks)

Q3.

The diagram shows a simple telescope which uses two lenses to look at stars.



(i) Explain what the eyepiece lens does.

(2)

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(ii) Complete the sentence by putting a cross (☒) in the box next to your answer.

The light that travels from the stars transfers

(1)

☒ **A** charge

☒ **B** energy

☒ **C** mass

☒ **D** matter

Q4.

Light travels the 150 million km from the Sun to the Earth in about 500 s.
It takes about 2100 s for light to reach the Earth from Jupiter.
Using this information, calculate the approximate distance of Jupiter from the Earth.

(2)

distance of Jupiter from the Earth =.....million km

Q5.

(i) Figure 9 shows a student sitting on the shore of a lake watching ripples on the surface of the water moving past a toy boat.

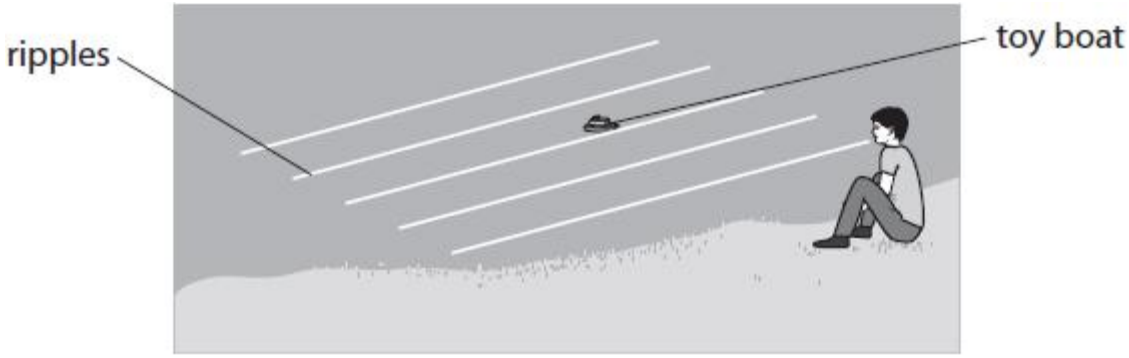

Figure 9

The student has a stopwatch.
Describe how the student could determine the frequency of the ripples on the lake.

(3)

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(ii) The speed of a water wave is 1.5 m/s.

The frequency of the wave is 0.70 Hz.
Calculate the wavelength of this wave.
Use the equation

$$v = f \times \lambda$$

(2)

wavelength = ... m

(iii) Water waves are transverse waves.

Describe the difference between transverse waves and longitudinal waves.

(2)

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(Total for question = 7 marks)