Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic : 5_Light and Electromagnetic Spectrum

Name of the Student:_____
Max. Marks : 22 Marks **Time : 22 Minutes**

Q1.

Answer the question with a cross in the box you think is correct (☒). If you change your mind about an answer, put a line through the box (☒) and then mark your new answer with a cross (☒).

A sound wave can transfer information across a room.

Which row of the table shows what else a sound wave can transfer?

(1)

	can transfer energy	can transfer air
☐ **A**	yes	yes
☐ **B**	yes	no
☐ **C**	no	yes
☐ **D**	no	no

(Total for question = 1 mark)

Q2.

Answer the question with a cross in the box you think is correct ☒ . If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒ .

Figure 5 shows a wave on the surface of water.

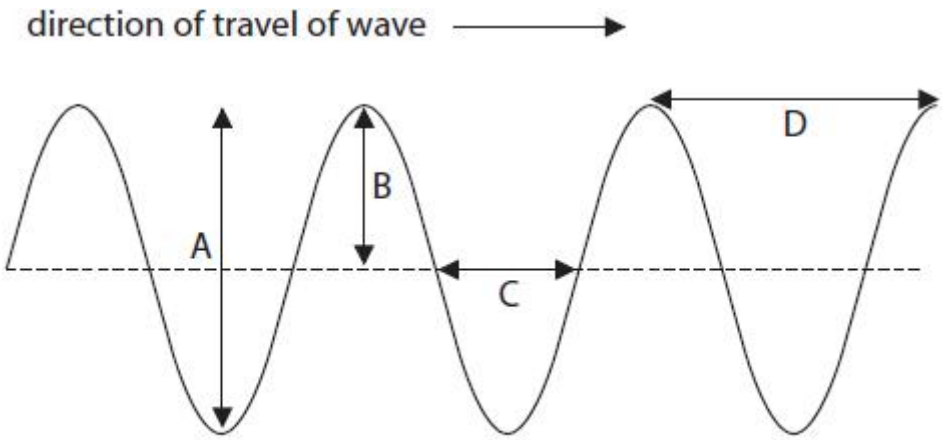


Figure 5

(i) Which of the arrowed lines shows the amplitude of the wave?

(1)

- ☐ **A**
- ☐ **B**
- ☐ **C**
- ☐ **D**

(ii) Explain why the wave shown in Figure 5 is a transverse wave.

(2)

.....

.....

.....

.....

(Total for question = 3 marks)

Q3.

Answer the question with a cross in the box you think is correct (☒). If you change your mind about an answer, put a line through the box (☒) and then mark your new answer with a cross (☒).

Which of these always increases as a sound gets louder?

(1)

- ☐ **A** amplitude
- ☐ **B** frequency
- ☐ **C** speed
- ☐ **D** wavelength

(Total for question = 1 mark)

Q4.

Answer the question with a cross in the box you think is correct (☒). If you change your mind about an answer, put a line through the box (☒) and then mark your new answer with a cross (☒).

Figure 4 shows a water wave.

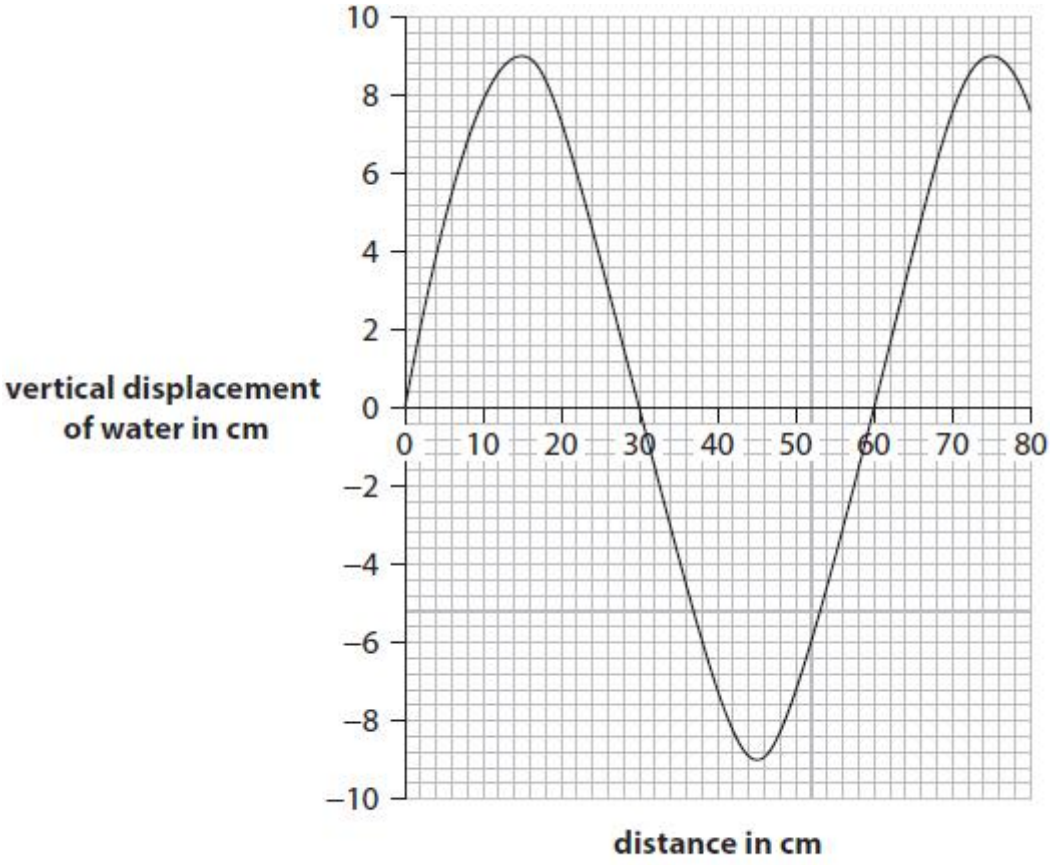


Figure 4

Which of these is the amplitude of the wave shown in Figure 4?

(1)

- ☐ **A** 9 cm
- ☐ **B** 18 cm
- ☐ **C** 30 cm
- ☐ **D** 60 cm

(Total for question = 1 mark)

Q5.

Figure 2 shows water waves spreading out from a source.

A student measures the wavelength of the waves.

He uses a ruler to measure the distance from one crest to the next crest.

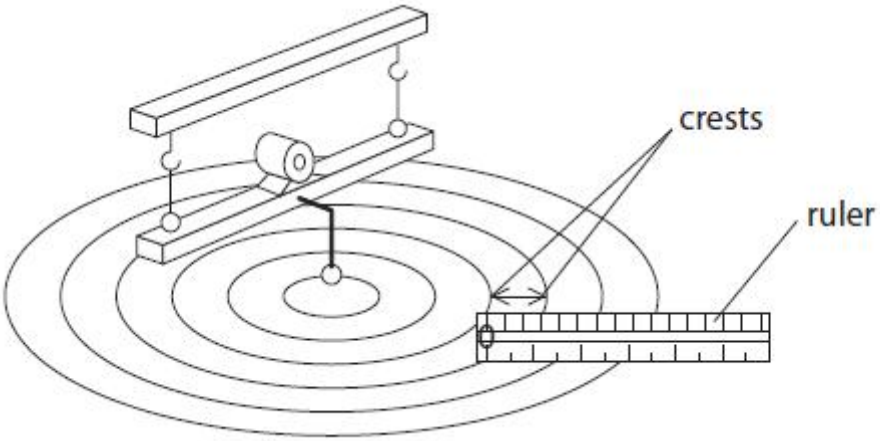


Figure 2

Explain how to improve the student's method for measuring the wavelength.

(2)

.....

.....

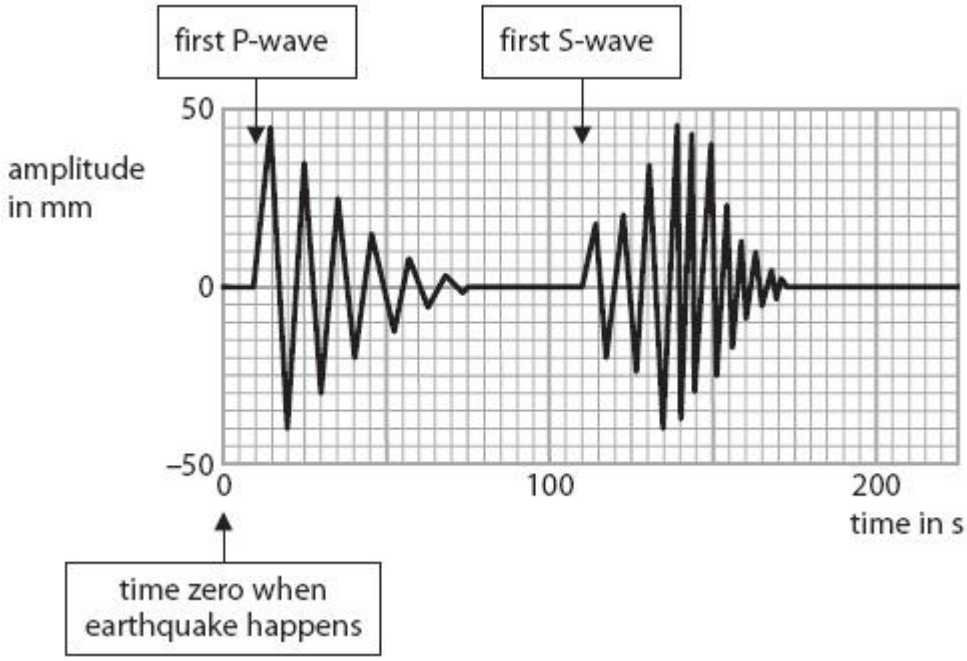
.....

.....

(Total for question = 2 marks)

Q6.

The chart shows the arrival of earthquake waves at an earthquake monitoring station.



The S − P time (S minus P time) for earthquake waves is the time difference between the arrival of the first P wave and the first S wave.

Use the chart to estimate the S − P time for the earthquake waves shown.

(2)

S − P time =.....seconds

Q7.

The photograph shows a pulse oximeter. This is used to show the heart rate and the amount of oxygen in the blood.

(a) (i) Where is the oximeter usually placed to take measurements?
Put a cross (☒) in the box next to your answer.

(1)

☒ **A** on the finger

☒ **B** over the heart

☒ **C** on the neck

☒ **D** on the wrist

(ii) There are two LEDs used in an oximeter.
One emits visible light.
State what type of radiation the other LED emits.

(1)

.....

.....

(iii) The oximeter shows a heart rate of 89 beats per minute.
Calculate the frequency in beats per second.

(2)

.....

(iv) Calculate the time between each heartbeat.
Use the equation

$$\text{time between heartbeats} = \frac{1}{\text{frequency}}$$

(2)

.....

*(b) Doctors use an electrocardiogram (ECG) machine to monitor the action of a person's heart.

Describe how a doctor can use an ECG machine to collect and display information from a person's beating heart in order to check heart action.

You may draw a labelled diagram to help with your answer.

(6)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(Total for Question = 12 marks)