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

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Name of the Student:_____
Max. Marks : 17 Marks **Time : 17 Minutes**

Q1.

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

(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)

.....

Q2.

There is a piece of music called "The Flight of the Bumble Bee."
This takes 4 minutes to play.
During this time, a bee flies 1608 m.

Calculate the average speed of the bee.

(3)

speed ..... m/s

Q3.

An earthquake causes a sea wave.

This sea wave travels 26 400 m in two minutes.

Calculate the speed of the wave.

Use the equation

$$\text{wave speed} = \frac{\text{distance}}{\text{time}}$$

(3)

speed = ... m/s

(Total for question = 3 marks)

Q4.

Sound waves travel at 330 m/s in air.

A student sees a flash of lightning.

The student hears the sound of thunder 4.0 s later.

Calculate the distance from the student to the flash of lightning.

Use the equation

$$x = v \times t$$

(2)

distance ..... m

(Total for question = 2 marks)

Q5.

In a swimming pool, a wave is produced with a wavelength of 4.0 m and a velocity of 0.8 m / s.

Calculate the frequency of the wave.

State the unit of frequency.

(3)

Use the equation

$$v = f \times \lambda$$

frequency of wave ..... unit.....

(Total for question = 3 marks)