Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic: Waves (Standard Demand Questions)

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Name of the Student:_____
Max. Marks : 20 Marks **Time : 20 Minutes**

Q1.

The Sun emits a continuous spectrum of electromagnetic waves.

Figure 1 names some of the groups of waves in the electromagnetic spectrum.

Figure 1

A	**B**	Infrared	Visible light	Ultraviolet	**C**	Gamma rays

(a) Name groups **A**, **B** and **C** in **Figure 1**.

A _____

B _____

C _____

(2)

(b) Give **one** similarity and **one** difference between the properties of ultraviolet waves and gamma rays.

Similarity _____

_____

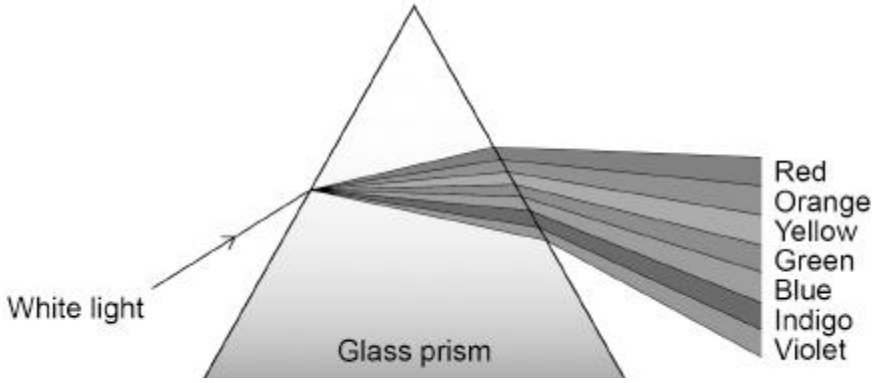
Difference _____

_____

(2)

Figure 2 shows white light split into a spectrum of different colours by a glass prism.

Figure 2



(c) Light changes direction when it enters the glass prism.

What name is given to this process?

_____

(1)

Use the Physics Equations Sheet to answer parts (d) and (e).

(d) Write down the equation that links frequency (*f*), wavelength (*λ*) and wave speed (*v*).

_____

(1)

(e) The wave in the middle of the spectrum has a wavelength of 5.0×10^{-7} m.

wave speed of light = 3.0×10^{8} m/s

Calculate the frequency of the wave.

_____

_____

_____

_____

_____

Frequency = _____ Hz

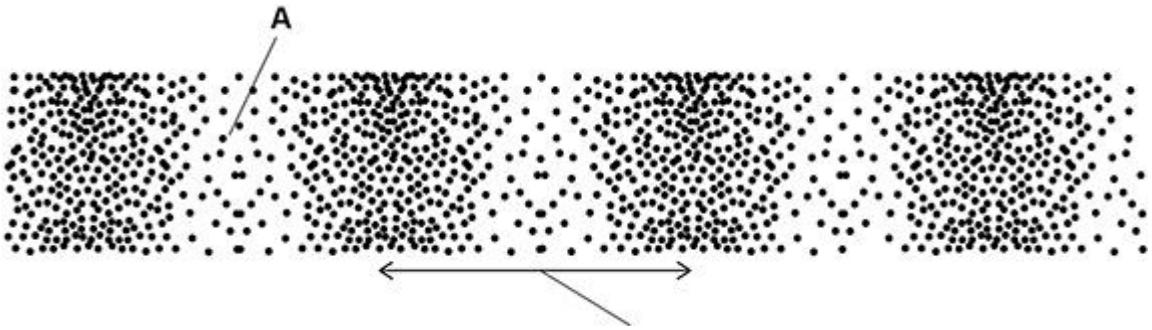
(3)

(Total 9 marks)

Q2.

Figure 1 shows a longitudinal wave.

Figure 1



(a) What do the labels **A** and **B** on **Figure 1** represent?

Choose answers from the box.

amplitude	**frequency**	**rarefaction**	**reflection**	**wavelength**

A _____

B _____

(2)

(b) The wave shown in **Figure 1** has a frequency of 4.0 kHz

Calculate the period of the wave.

Use the Physics Equations Sheet.

Give the unit.

_____

_____

_____

_____

_____

_____

_____

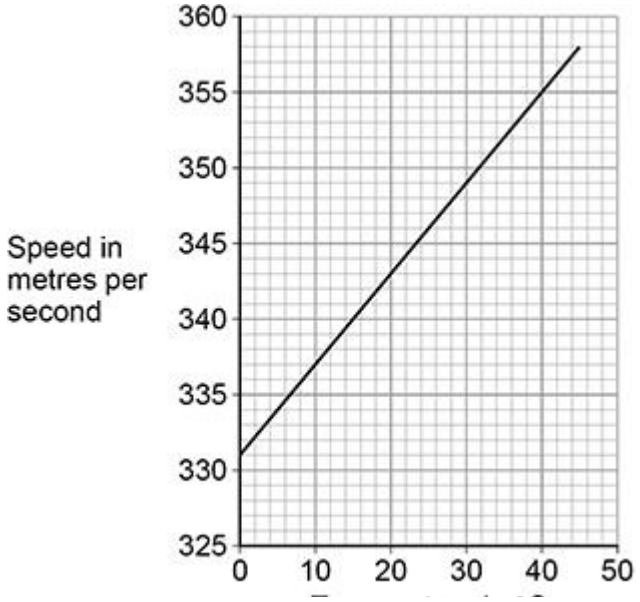
Period = _____ Unit _____

(4)

Sound waves are longitudinal.

Figure 2 shows how the speed of sound varies with the temperature of the air.

Figure 2



Use the Physics Equations Sheet to answer parts (c) and (d).

(c) Write down the equation that links frequency (*f*), wavelength (*λ*) and wave speed (*v*).

_____

(1)

(d) A sound wave with a frequency of 300 Hz travels through the air.

The air has a temperature of 28.0 °C

Determine the wavelength of the sound wave.

Use **Figure 2**.

_____

_____

_____

_____

_____

Wavelength = _____ m

(4)

(Total 11 marks)