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

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Name of the Student:_____
Max. Marks : 19 Marks **Time : 19 Minutes**

Q1.

Microwaves are used to transmit signals to the satellite. The microwaves have a wavelength of 0.6 metres (m) and travel through space at a speed of 300 000 000 metres per second (m/s).

(i) Write down the equation which links frequency, wavelength and wave speed.

_____

(1)

(ii) Calculate the frequency of the microwaves. Show clearly how you work out your answer and give the unit.

_____

_____

_____

Frequency = _____

(3)
(Total 4 marks)

Q2.

All radio waves travel at 300 000 000 m/s in air.

(i) Give the equation that links the frequency, speed and wavelength of a wave.

_____

(1)

(ii) Calculate the wavelength, in metres, of a radio wave which is broadcast at a frequency of 909 kHz. Show clearly how you work out your answer.

_____

_____

_____

Wavelength = _____ metres

(2)
(Total 3 marks)

Q3.

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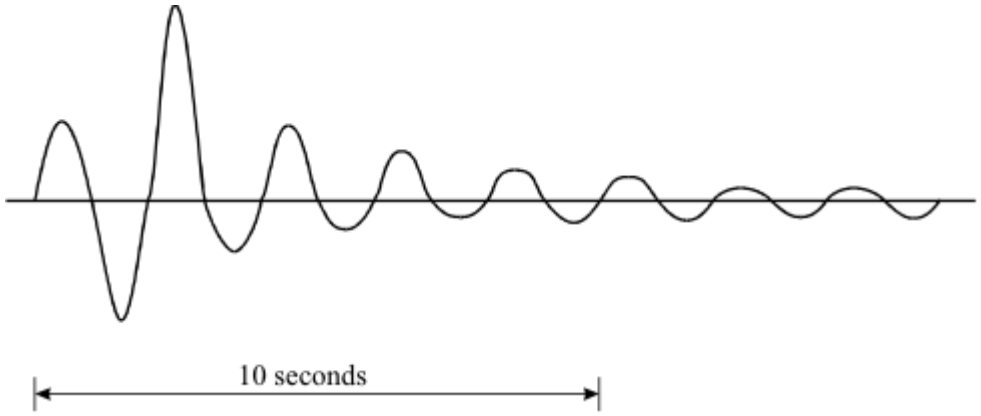
The vibration caused by a P wave travelling at 7.6 km/s has been recorded on a seismic chart.



(i) How many waves are produced in one second?

_____

(1)

(ii) Write down the equation which links frequency, wavelength and wave speed.

_____

(1)

(iii) Calculate the wavelength of the P wave. Show clearly how you work out your answer and give the unit.

_____

_____

_____

Wavelength = _____

(2)

(Total 4 marks)

Q4.

Radio waves, ultra-violet, visible light and X-rays are all types of electromagnetic radiation.

(a) Choose wavelengths from the list below to complete the table.

3×10^{-8} m 1×10^{-11} m 5×10^{-7} m 1500 m

TYPE OF RADIATION	WAVELENGTH (m)
Radio waves	
Ultra-violet	
Visible light	
X-rays	

(4)

(b) Microwaves are another type of electromagnetic radiation.

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Calculate the frequency of microwaves of wavelength 3 cm.
(The velocity of electromagnetic waves is 3×10^8 m/s.)

_____

_____

_____

_____

(4)

(Total 8 marks)

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