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

Name of the Student:_____
Max. Marks : 21 Marks **Time : 21 Minutes**

Q1.

Waves may be longitudinal or transverse.

(a) Describe the differences between longitudinal waves and transverse waves.

_____

_____

_____

_____

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_____

_____

_____

(3)

(b) Radio waves are electromagnetic waves.

Describe how radio waves are different from sound waves.

_____

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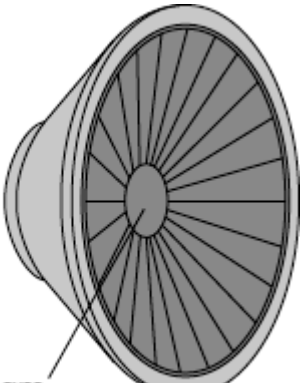
(4)
(Total 7 marks)

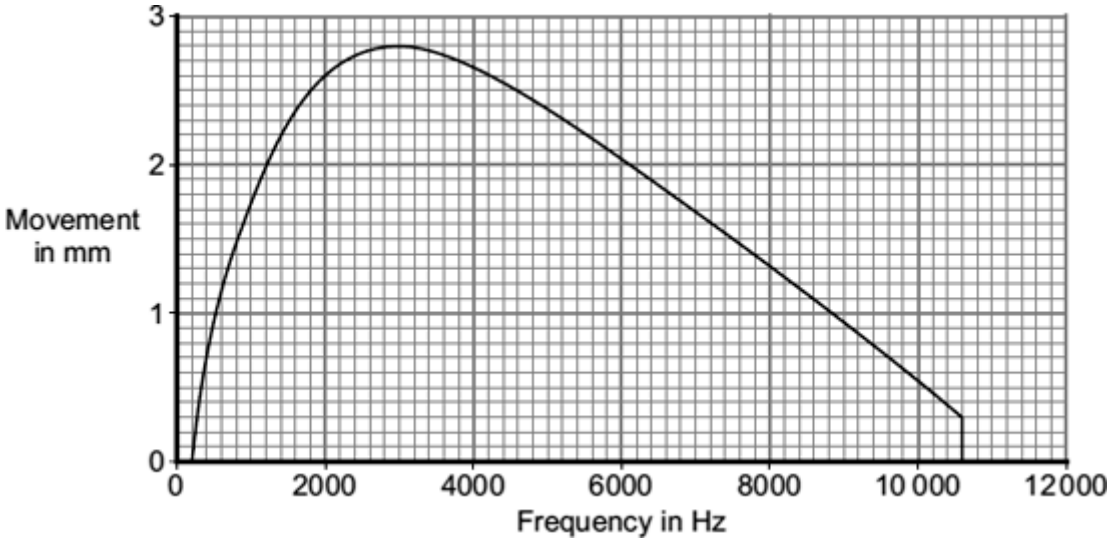
Q2.

The diaphragm of a loudspeaker moves in and out.



A team of scientists investigated loudspeakers.

The scientists measured the size of the movement of the diaphragm for signals of different frequencies.
They kept all the other variables constant.
The graph shows the average results for a large number of tests on one of the loudspeakers.



(a) What is the frequency of the highest pitched sound which this loudspeaker produces?

Frequency = _____ Hz

(1)

(b) The greater the movement of the diaphragm, the greater the amplitude of the sound produced.

What is the frequency of the loudest sound which this loudspeaker produces?

Show clearly on the graph how you get to your answer and then complete this answer space.

Frequency = _____ Hz

(2)

(c) Can this loudspeaker produce the full range of sound which most people can hear?

Put a tick (✓) in the box next to your answer.

Yes ☐ No ☐

Explain the reason for your answer.

_____

_____

_____

_____

(2)

(d) Use **one** word to complete the sentence.

Repeating tests a large number of times and taking the average of the results

improves the _____ .

(1)

(e) Why did the scientists keep all the other variables constant?

_____

_____

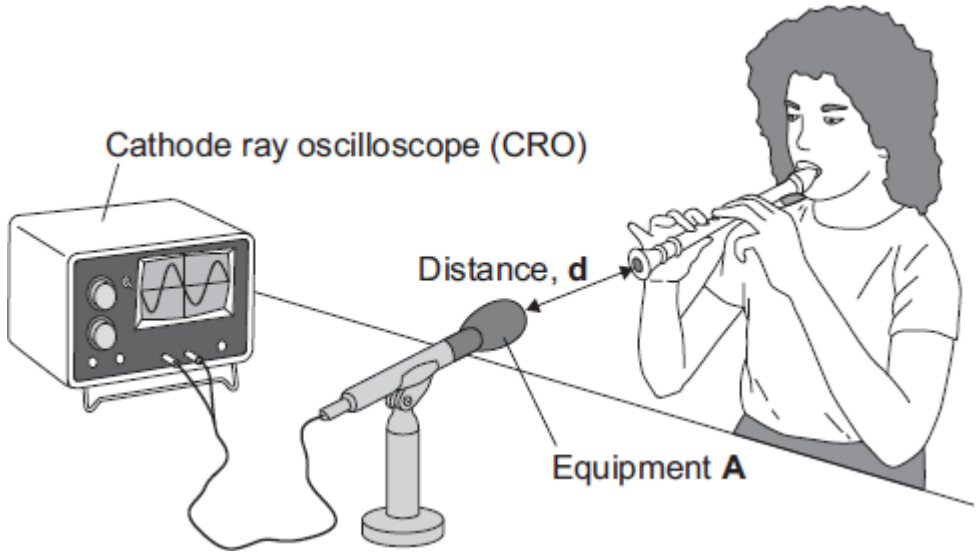
(1)

(Total 7 marks)

Q3.

A group of students investigates sound waves.

The diagram shows part of their investigation.



(a) Identify the equipment labelled **A**.

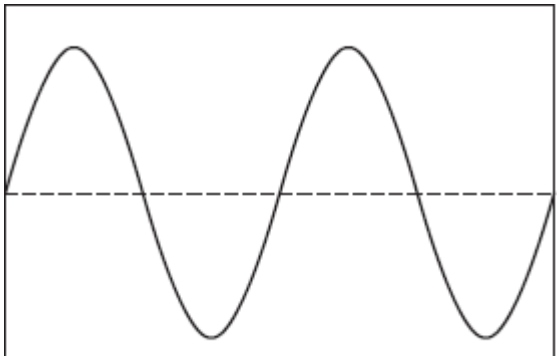
_____

(1)

(b) The student plays the same note in the same way at different distances from equipment **A**.

Another student records the amplitude of the wave shown on the cathode ray oscilloscope (CRO).

(i) Label this wave to show its amplitude.



(1)

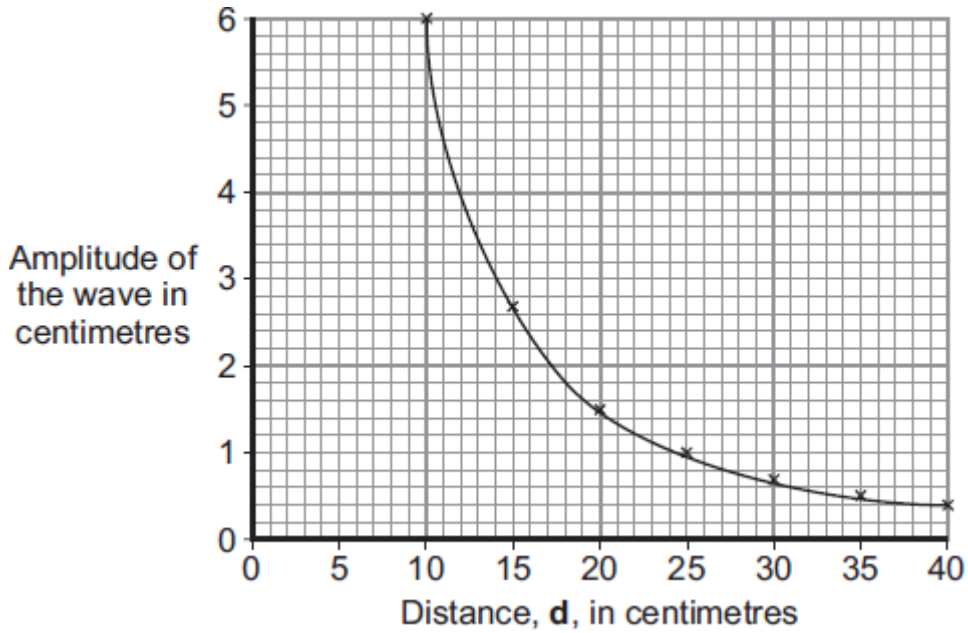
(ii) Complete the sentence.

Increasing the amplitude of a sound wave will increase the _____

of the sound.

(1)

(c) The graph shows the students' average results from several sets of measurements.



Use the graph to find the distance, **d**, in centimetres, at which the average amplitude is likely to be 2 centimetres.

Distance = _____ cm.

(1)

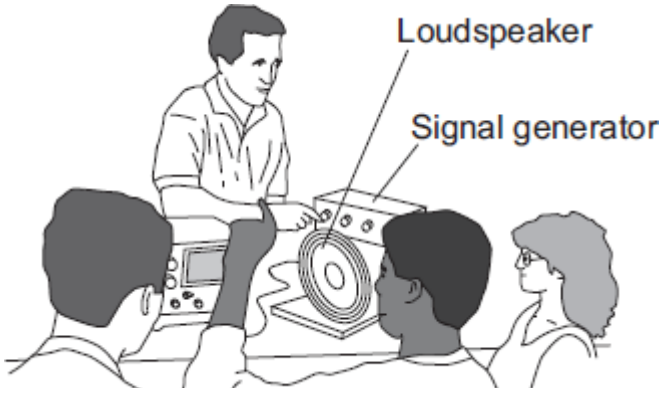
(d) Write a conclusion for this investigation.

_____

_____

(1)

(e) A physics teacher uses a signal generator and a loudspeaker to demonstrate the range of hearing of a group of students.



What is the range of frequencies most humans can hear?

Most humans can hear from _____ Hz to _____ Hz.

(2)

(Total 7 marks)