Sound – 2020 IGCSE 0625

1. Nov/2020/Paper_11/No.26

A police car with its siren sounding is stationary in heavy traffic. A pedestrian notices that, although the loudness of the sound produced does not change, the pitch varies.

Which row describes the amplitude and the frequency of the sound?

	amplitude	frequency
A	constant	constant
B	constant	varying
C	varying	constant
D	varying	varying

2. Nov/2020/Paper_12/No.26

A police car with its siren sounding is stationary in heavy traffic. A pedestrian notices that, although the loudness of the sound produced does not change, the pitch varies.

Which row describes the amplitude and the frequency of the sound?

	amplitude	frequency
A	constant	constant
B	constant	varying
C	varying	constant
D	varying	varying

3. Nov/2020/Paper_13/No.26

A police car with its siren sounding is stationary in heavy traffic. A pedestrian notices that, although the loudness of the sound produced does not change, the pitch varies.

Which row describes the amplitude and the frequency of the sound?

	amplitude	frequency
A	constant	constant
B	constant	varying
C	varying	constant
D	varying	varying

4. Nov/2020/Paper_21/No.25

Which row gives possible values for the speed of sound?

	speed in gas m/s	speed in liquid m/s	speed in solid m/s
A	972	1450	3560
B	972	3560	1450
C	1450	3560	972
D	3560	972	1450

5. Nov/2020/Paper_21/No.26

A police car with its siren sounding is stationary in heavy traffic. A pedestrian notices that, although the loudness of the sound produced does not change, the pitch varies.

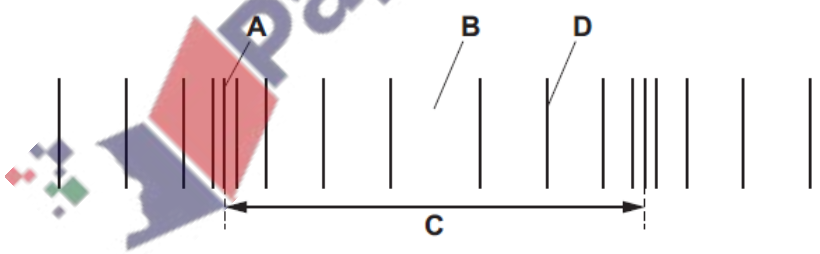
Which row describes the amplitude and the frequency of the sound?

	amplitude	frequency
A	constant	constant
B	constant	varying
C	varying	constant
D	varying	varying

6. Nov/2020/Paper_22/No.24

A student draws a diagram to illustrate the different sections of a longitudinal wave.

Which labelled section is a rarefaction?



7. Nov/2020/Paper_22/No.26

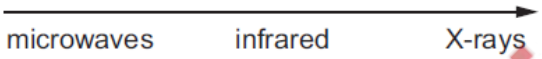
A police car with its siren sounding is stationary in heavy traffic. A pedestrian notices that, although the loudness of the sound produced does not change, the pitch varies.

Which row describes the amplitude and the frequency of the sound?

	amplitude	frequency
A	constant	constant
B	constant	varying
C	varying	constant
D	varying	varying

8. Nov/2020/Paper_23/No.26

The diagram shows three types of electromagnetic radiation listed in a particular order. The electromagnetic radiation is travelling in a vacuum.



Which quantities increase in magnitude going from left to right across the list?

A frequency only

B neither speed nor frequency

C speed and frequency

D speed only

9. Nov/2020/Paper_23/No.27

A police car with its siren sounding is stationary in heavy traffic. A pedestrian notices that, although the loudness of the sound produced does not change, the pitch varies.

Which row describes the amplitude and the frequency of the sound?

	amplitude	frequency
A	constant	constant
B	constant	varying
C	varying	constant
D	varying	varying

10. Nov/2020/Paper_43/No.6

(a) Sound waves consist of compressions and rarefactions.

Explain the terms *compression* and *rarefaction*. Give your explanation in terms of the spacing of molecules and the pressure for sound waves in air.

compression .....

.....

rarefaction .....

.....

[3]

(b) A musical instrument emits a sound with a frequency of 4.4 kHz. The speed of sound in air is 340 m/s.

(i) Calculate the wavelength of the sound.

wavelength = ... [3]

(ii) The frequency of the sound emitted by the instrument is changed to 5.1 kHz and the amplitude of the sound is increased.

Without calculation, state what happens to

1. the speed of the sound .....

2. the wavelength of the sound .....

[2]

[Total: 8]