



Choose the correct Answer:

1. Sound can travel through:

- (a) gases only
- (b) solids only
- (c) liquids only
- (d) solids, liquids and gases

2. Voice of which of the following is likely to have minimum frequency?

- (a) Baby girl
- (b) Baby boy
- (c) A man
- (d) A woman

3. Sound waves travel fastest in:

- (a) air
- (b) metals
- (c) vacuum
- (d) liquids

4. Sounds having frequency less than 20 Hz are called:

- (a) supersonic
- (b) ultrasonic
- (c) sonar
- (d) infrasonic

5. A tuning fork of frequency 384 Hz produces a lower note than one of frequency:

- (a) 256 Hz
- (b) 512 Hz
- (c) 288 Hz
- (d) 320 Hz

B. State True or False:

- 1. Sound cannot travel in vacuum.
- 2. The number of oscillations per second of a vibrating object is called its time period.
- 3. If the amplitude of vibration is large, sound is feeble.
- 4. For human ears, the audible range is 20 Hz to 20,000 Hz.
- 5. The lower the frequency of vibration, the higher is the pitch.
- 6. Unwanted or unpleasant sound is termed as music.
- 7. Noise pollution may cause partial hearing impairment.

C. Fill in the blanks:

1. Time taken by an object to complete one oscillation is called
2. Loudness is determined by the of vibration.
3. The unit of frequency is
4. Unwanted sound is called
5. Shrillness of a sound is determined by the of vibration.

D. Answer the following questions in short:

1. Name the sound producing organ in human.
2. How does sound travel from one place to another?
3. How is sound produced?
4. What do you mean by musical sound?
5. How does the amplitude affect the loudness of vibration?
6. A pendulum oscillates 40 times in 4 seconds. Find its time period and frequency.
7. The sound from a mosquito is produced when it vibrates its wings at the average rate of 500 vibrations per second. What is the time period of the vibration?

8. Identify the part which vibrates to produce sound in the following instruments:
 - (a) Dholak
 - (b) Sitar
 - (c) Flute

9. What is the difference between noise and music? Can music become noise sometimes?
10. Explain in what way noise pollution is harmful to humans.
11. List sources of noise pollution in your surroundings.
12. Your parents are going to buy a house. They have been offered one on the roadside and another three lanes away from the roadside. Which house would you suggest your parents should buy? Explain your answer.
13. Sketch larynx and explain its function in your own words.
14. Lightning and thunder take place in the sky at the same time and at the same distance from us. Lightning is seen earlier and thunder is heard later. Can you explain why?
15. How is sound produced and how is it transmitted and heard by us?
16. A child with a moderately severe hearing loss may have defective speech. Why?

17. A pendulum oscillates 40 times in 4 seconds. Find its time period and frequency?

18 The sound from a mosquito is produced when it vibrates its wings at an average rate of 500 vibrations per second. What is the time period of the vibration?

E. Match the following:

'A'	'B'
1. High pitch sound	a. Frequency
2. Number of vibrations produced by a vibrating particle in one second	b. Amplitude
3. Flute	c. Time period
4. Speed of sound in air	d. Frequency of vibration
5. Sound propagation	e. Vacuum
6. Time in which vibrating particle completes one vibration	f. 1000 Hz
7. A medium through which sound cannot travel	g. 330 m/sec
8. 1 kHz	h. Vibration
9. Maximum displacement of a vibrating particle from its mean position	i. Material medium
10. To and fro motion of a vibrating body about its mean position	j. Vibration air column
11. Pitch	k. High frequency
12. Loudness	l. Amplitude

F. CASE STUDY- BASED QUESTIONS/ PASSAGE BASED QUESTIONS:

Sound is a form of energy that makes us hear. Vibrating objects produce sound. Vibration is the to-and-fro or back-and-forth movement of an object. Sound needs a medium to travel. Hence, it cannot travel in a vacuum. Human beings have a voice box or larynx which is present in their throat on the upper side of

the windpipe. The larynx has two vocal cords which have a narrow slit between them so that air can pass through it. As the lungs throw the air out of the windpipe, it passes through the slit and hence allows the production of sound as the vocal cords start vibrating. Since sound travels in the form of waves, it is important to study about characteristics of waves. The three main properties of waves are **Amplitude, frequency, and time period**. The magnitude of disturbance in the medium on either side of the mean value is called as **Amplitude** (A). The larger the amplitude, the louder the sound. The number of oscillations/vibrations per second is called **frequency**, which is expressed in Hertz (**Hz**). The time taken for one complete oscillation/vibration is the **time period**.

- a) Which part of the human throat is responsible for the voice produced by a human?
- b) The form of energy that enables us to hear:
- c) The rapid to and fro or up and down movement of an object from its mean position:
- d) The maximum displacement of a vibrating object from its mean position:
- e) The time taken by a vibrating object to complete one vibration:
- f) The number of vibrations in one second:
- g) What is the unit of frequency?
- h) What is the unit of loudness?
- I) Mention your experience when you touch a sound-producing school bell.