

## 05. SOUND

### Questions and Answers

#### 1. Fill in the blanks with suitable words.

- a) the to and fro motion of a body is called .....
- b) Number of vibrations per second is called .....
- c) The intensity of sound can be measured in .....
- d) Sound can not travel in .....
- e) Vibrating bodies produce .....
- f) The maximum displacement of a body from its mean position is called .....

**A.a)** vibratory motion / oscillatory motion

- b) frequency
- c) decibel
- d) vacuum
- e) sound
- f) amplitude

#### 2. A normal human beings can listen to sounds with frequency from ..... to ..... cycles per second.

**A.** A normal human beings can listen to sounds with frequency from 20 to 20000 cycles per second.

#### 3. How will you differentiate the amplitude and frequency of different sounds? Give two suitable examples from your daily life?

**A. Amplitude:** While a body is vibrating, the maximum displacement of a body from its mean position is called amplitude. If amplitude increases, the loudness of sound increases.

**Frequency:** The number of vibrations produced by a body in one second is called frequency.

If the frequency increases, the pitch of sound increases.

**Example:** Boys can have more amplitude and has less frequency in sound. They can shout loud. Girls have less amplitude and has more frequency in sound. Their voice is more than a shriller.

#### 4. Write any three musical instruments that you know and explain how they produce sound?

**A.**

Musical instruments	How they produced sound?
Veena	It produced sound on vibrating the stretched strings, which are tightly fitted.
Flute	It produced sound on vibrating the air column in it by blowing air.
Tabala	It produced sound on vibrating the stretched membrane , which is tightly fixed

#### 5. The sounds of crickets (insects) make us close our ears?

**A.** The insects produce high frequency sounds. As the frequency of sounds increases, the shrillness increases. We felt the sounds of insects make us close to our years.

6. Robert observed a musical instrument producing sound. But he didn't find any vibration of any part of that instrument. This observation raised many questions in his mind. Can you guess what are the questions raised in his mind? Write them.

A. The following questions may be arisen in Robert's mind.

- (i) How it is produced sound with out vibration?
- (ii) Is it possible to produce sound with out vibration?
- (iii) Which part produce sound?
- (iv) Is the vibration body invisible?

7. "Vibrations in a body produce sounds". How do you prove it?

A. Take a brass bell. Ring the bell and listen the sound carefully. Now hold the bell tightly with your hands. Ring it again. You have noticed that there is a change in sound. Sound is more when it is free. So by this activity we declared that vibrations in a body produce sound.

8. Can parrots speak?

A. Parrots can not talk. Because, Parrots do not have vocal cords. So sound is accomplished by expelling air across the mouth of the bifurcated trachea. Different sounds are produced by changing the depth and shape of trachea. So talking parrots is actually whistling with different variations.



13. Explain why we are not able to hear the explosions happening in the sun?

A. Sounds needs material medium to propagate. The created sound due to explosions happening in the sun has to travel through vacuum. But sound can not travel through vacuum. So we are not able to hear explosion.

14. Write any two slogans to reduce sound pollution.

A. Slogans for against sound pollution:

- (i) Keep silence – avoid noise pollution
- (ii) Low sound – Peaceful mind

15. Write your suggestions about reducing sound pollution.

A. We can not stop the production of sound. But we can reduce the sound pollution by some measures.

Steps which can be taken to reduce sound pollution:

- (i) Attach silencers to bike and other vehicles.
- (ii) Machines with less noise to be manufactured.
- (iii) While watching TV or listening tape recorder, keep down the volume.
- (iv) Save plants as they reduce sound pollution.

14. How does sound pollution effects bio diversity? Explain.

A. Sound pollution effects the bio diversity:

- (i) Due to sound pollution the population of birds like crows, sparrows decreased.
- (ii) Many animals are sensitive towards sounds. Due to sound pollution some of animals are come under red zone. They become endangered species.

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