# Chapter 6: Sound

## Worksheet 1

**1. Write T for true and F for false statement.**

(i) A tuning fork is a useful device to show how a vibrating object can produce sound.

(ii) The SI unit of frequency is hertz.

(iii) Loudness does not depend on the area of the vibrating body.

(iv) The speed of sound in air at a room temperature of 15°C is 340 m/s.

(v) A harmonium is an example of wind instrument.

**2. Fill in the blanks.**

(i) _____ is a form of energy which causes sensation of hearing in our ears.

(ii) A sitar is a kind of _____ instrument.

(iii) Speed of sound is extremely _____ as compared to the speed of light.

(iv) _____ is produced due to reflection of sound.

(v) The number of vibrations completed by a vibrating particle in unit time is called its _____.

**3. Encircle the odd one out.**

(i) Shehnai, trumpet, flute and guitar

(ii) Sitar, guitar, violin and harmonium

(iii) Hertz, second, metre and amplitude

(iv) Bass drum, dholak, sarangi and tabla

(v) Bugle, violin, trumpet and clarionet

**4. Answer the following questions.**

(i) How is sound produced?

(ii) What are vocal cords?

(iii) What is called the time taken by a vibrating particle to complete one vibration to and fro about its mean position?

(iv) What are called the sounds having frequencies lower than 20 Hz?

(v) What is meant by reverberation?

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## Worksheet 2

**1. Tick the correct answer.**

(i) Sounds having frequencies higher than 20,000 Hz are called

(a) ultrasonic sounds (b) infrasonic sounds

(c) audible range (d) none

(ii) Speed of sound is maximum in

(a) liquids (b) gases (c) solids (d) none

(iii) The SI unit of wavelength is

(a) second (b) hertz (c) metre (d) centimetre

(iv) This is the maximum displacement of a medium particle on either side of its mean position.

(a) amplitude (b) wavelength (c) frequency (d) echo

(v) The speed of sound in steel is

(a) 7000 m/s (b) 5941 m/s (c) 9000 m/s (d) 8000 m/s

**2. Fill in the blanks.**

(i) Sound requires a material medium for its _____.

(ii) _____ are the regions where medium particles are spread apart and medium density is low.

(iii) In a _____ wave, alternate regions of compressions and rarefactions are formed.

(iv) Speed of sound is maximum in _____ gas.

(v) Echo is based on _____ of sound.

**3. True or False statements.**

(i) Compressions are regions where medium particles are crowded together and medium density is high.

(ii) The to and fro motion of a medium particle once around its mean position is called one vibration.

(iii) A mouth organ is a kind of wind instrument.

(iv) Speed of sound in humid air is less than that in dry air.

(v) The frequency of vibrations is reciprocal of its time period.

**4. Answer the following questions.**

(i) Define wave motion.

(ii) Why can sound not be heard on the moon's surface?

(iii) The frequency of a tuning fork is 100 Hz. What is the time period of vibration?

(iv) If a vibrational string completes one vibration in $\frac{1}{30}$ second, find the vibrational frequency of the string.

(v) What is soundproof box?