

**KINETICS**

We Nurture The Future

IIT-JEE | Medical | Foundations

Sound

Multiple Choice Questions

Question 1.

For hearing a distinct sound, the time interval between the original sound and the reflected one must be at least:

- (a) 1 s
- (b) 0.1 s
- (c) 2 s
- (d) 0.2 s

▼ [Answer](#)

Answer: (b) 0.1 s

Question 2.

The persistence of sound in an auditorium is the result of repeated reflections of sound and is called:

- (a) reverberation
- (b) audible
- (c) distinct sound
- (d) reflection

▼ [Answer](#)

Answer: (a) reverberation

Question 3.

The speed v , frequency ν , and wavelength λ , of sound are related by the equation:

- (a) $v = \lambda\nu$
- (b) $\nu = \lambda v$
- (c) $\lambda = \nu v$
- (d) $v = \frac{\lambda}{\nu}$

▼ [Answer](#)

Answer: (a) $v = \lambda\nu$

Question 4.

The speed of sound is maximum in:

- (a) solids
- (b) liquids
- (c) gases
- (d) All of these

▼ [Answer](#)

Answer: (a) solids

Question 5.

Our ears are sensitive to sound frequencies between:

- (a) 20 Hz to 20 kHz
- (b) 2 Hz to 20 Hz
- (c) 20 kHz to 200 kHz
- (d) 2000 kHz to 20000 kHz

▼ [Answer](#)

Answer: (a) 20 Hz to 20 kHz

Question 6.

Which of the following waves are produced by bats?

- (a) Infrasonic waves

- (b) Ultrasonic waves
- (c) Audible waves
- (d) All of these

▼ [Answer](#)

Answer: (b) Ultrasonic waves

Question 7.

Maximum tolerable sound is:

- (a) 0 dB
- (b) 10 dB
- (c) 60 dB
- (d) 120 dB

▼ [Answer](#)

Answer: (d) 120 dB

Question 8.

Sound waves are:

- (a) magnetic waves
- (b) electric waves
- (c) electromagnetic waves
- (d) mechanical waves

▼ [Answer](#)

Answer: (d) mechanical waves

Question 9.

In SONAR, we use:

- (a) ultrasonic waves
- (b) infrasonic waves
- (c) radio waves
- (d) audible sound waves

▼ [Answer](#)

Answer: (a) ultrasonic waves

Question 10.

Sound travels in the air if:

- (a) particles of medium travel from one place to another
- (b) there is no mixture in the atmosphere

- (c) disturbance moves
- (d) both particles as well as disturbance travel from one place to another

▼ [Answer](#)

Answer: (c) disturbance moves

Question 11.

When we change feeble sound to loud sound we increase its:

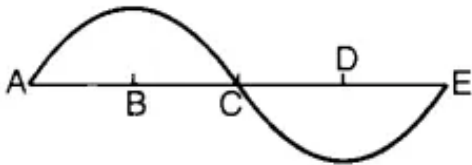
- (a) frequency
- (b) amplitude
- (c) velocity
- (d) wavelength

▼ [Answer](#)

Answer: (b) amplitude

Question 12.

In the curve half the wavelength is:



- (a) AB
- (b) BD
- (c) DE
- (d) AE

▼ [Answer](#)

Answer: (b) BD

Question 13.

An earthquake produces which kind of sound before the mainshock wave begins:

- (a) ultrasound
- (b) infrasound
- (c) audible sound
- (d) None of the above

▼ [Answer](#)

Answer: (b) infrasound

Question 14.

Infrasound can be heard by:

- (a) dog
- (b) bat
- (c) rhinoceros
- (d) human beings

▼ [Answer](#)

Answer: (c) rhinoceros

Fill in the blanks.

Question 15.

Sound travels as a _____ wave through a material medium.

▼ [Answer](#)

Answer: longitudinal

Question 16.

The change in density from one maximum value to the minimum value and again to the maximum value makes one complete _____

▼ [Answer](#)

Answer: oscillation

Question 17.

Sound waves with frequencies below the audible range are termed as _____

▼ [Answer](#)

Answer: infrasonic

Question 18.

Sound waves with frequencies above the audible range are termed as _____

▼ [Answer](#)

Answer: ultrasonic

Question 19.

_____ is produced due to reflections of sound from obstacles.

▼ [Answer](#)

Answer: Echo

Question 20.

Wave velocity = Frequency \times _____

▼ [Answer](#)

Answer: wavelength

Question 21.

Sound frequencies greater than 20,000 Hz are known as _____

▼ [Answer](#)

Answer: ultrasonic sound

Question 22.

Echo can be heard clearly if the minimum distance between the source of the sound and the obstacle is _____

▼ [Answer](#)

Answer: 17.2 meter

Question 23.

Echo is produced due to _____ of sound from obstacles.

▼ [Answer](#)

Answer: reflection

[True/False.](#)

Question 24.

Sound is produced due to the vibration of different objects.

▼ [Answer](#)

Answer: True

Question 25.

Sound travels as successive compressions and rarefactions in the medium.

▼ [Answer](#)

Answer: True

Question 26.

In sound propagation, it is the energy of the sound that travels and not the particles of the medium.

▼ [Answer](#)

Answer: True

Question 27.

Sound propagates in a vacuum.

▼ [Answer](#)

Answer: False

Question 28.

The speed of sound does not depend primarily on the nature and the temperature of the transmitting medium.

▼ [Answer](#)

Answer: False

Question 29.

Loudness is a physiological response of the ear to the intensity of sound.

▼ [Answer](#)

Answer: True

Question 30.

The audible range of hearing for average human beings is in the frequency range of 20Hz – 20kHz.

▼ [Answer](#)

Answer: True

Question 31.

Sound frequencies above 20 Hz are known as inaudible sound.

▼ [Answer](#)

Answer: False

Question 32.

Rhino can hear the sound frequency of 5 Hz.

▼ [Answer](#)

Answer: True

Question 33.

SONAR is used to determine the depth of the sea.

▼ [Answer](#)

Answer: True

Question 34.

The transverse and longitudinal waves are called progressive waves.

▼ [Answer](#)

Answer: True

[Match the Column.](#)

Question 35.

A	B
1. Frequency below 20 Hz	(i) 120 dB
2. Heartbeat	(ii) Audible sounds
3. Maximum tolerable sound	(iii) Infrasonic sounds
4. Frequency of 20 Hz to 20,000 Hz	(iv) Stethoscope
5. Uses of SONAR	(v) Decibel
6. The unit of intensity of sound	(vi) Depth of sea

▼ [Answer](#)

Answer:

A	B
1. Frequency below 20 Hz	(iii) Infrasonic sounds
2. Heartbeat	(iv) Stethoscope
3. Maximum tolerable	(i) 120 dB

sound

- | | |
|------------------------------------|---------------------|
| 4. Frequency of 20 Hz to 20,000 Hz | (ii) Audible sounds |
| 5. Uses of SONAR | (vi) Depth of sea |
| 6. The unit of intensity of sound | (v) Decibel |
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[Answer in Word/Sentence.](#)

Question 36.

What is the term given to the distance between two consecutive compression or two consecutive rarefactions?

▼ [Answer](#)

Answer: Wavelength (λ)

Question 37.

What is the term given to the time taken by the wave for one complete oscillation of the density of the medium?

▼ [Answer](#)

Answer: Time Period (T)

Question 38.

What is the amount of sound energy passing each second through the unit area?

▼ [Answer](#)

Answer: The intensity of sound

Question 39.

Which technique is used to locate underwater hills, valleys, submarines, icebergs, sunken ships, etc.?

▼ [Answer](#)

Answer: The SONAR

Question 40.

What type of mechanical waves are produced in the air (gases)?

▼ [Answer](#)

Answer: Longitudinal waves

Question 41.

What type of mechanical waves are produced on the surface of the water?

▼ [Answer](#)

Answer: Transverse waves

Question 42.

What type of waves are sound waves?

▼ [Answer](#)

Answer: Longitudinal mechanical waves

Question 43.

What type of waves are produced by the bats while flying?

▼ [Answer](#)

Answer: Ultrasound waves
