

SOUND

Question 1: When a wave travels through a medium _____.

1. particles are transferred from one place to another
2. energy is transferred in a periodic manner
3. energy is transferred at a constant speed
4. none of the above statements is applicable

Answer: 3

Question 2: The minimum distance between the source and the reflector, so that an echo is heard is approximately equal to _____.

1. 10 m
2. 17 m
3. 34 m
4. 50 m

Answer: 2

Question 3: Bats detect the obstacles in their path by receiving the reflected _____.

1. infrasonic waves
2. radio waves
3. electro-magnetic waves
4. ultrasonic waves

Answer: 4

Question 4: When sound travels through air, the air particles _____.

1. vibrate along the direction of wave propagation
2. vibrate but not in any fixed direction
3. vibrate perpendicular to the direction of wave propagation
4. do not vibrate

Answer: 1

Question 5: The relation between wave velocity 'v', frequency 'f', and wavelength 'l' is _____.

1. $v = \frac{f}{\lambda}$
2. $v = f\lambda$
3. $v = \frac{\lambda}{f}$
4. $v = \frac{1}{f\lambda}$

Answer: 2

Question 6: The frequency of a wave travelling at a speed of 500 ms^{-1} is 25 Hz. Its time period will be _____.

1. 20 s
2. 0.05 s
3. 25 s
4. 0.04 s

Answer: 4

SOUND

Question 7: The amplitude of a wave is _____.

1. the distance the wave moves in one second
2. the distance the wave moves in one time period of the wave
3. the maximum distance moved by the medium particles on either side of the mean position
4. the distance equal to one wave length

Answer: 3

Question 8: Which of the following is not a characteristic of a musical sound?

1. Pitch
2. Wavelength
3. Quality
4. Loudness

Answer: 2

Question 9: Sound waves do not travel through

1. solids
2. liquids
3. gases
4. vacuum

Answer: 4

Question 10: The physical quantity, which oscillates in most waves, is

1. mass
2. energy
3. amplitude
4. wavelength

Answer: 3

Question 11: Sound waves are

1. longitudinal
2. transverse
3. partly longitudinal and partly transverse
4. sometimes longitudinal and sometimes transverse

Answer: 1

Question 12: The frequency which is not audible to the human ear is

1. 50 Hz
2. 500 Hz
3. 5000 Hz
4. 50000 Hz

Answer: 4

Question 13: The speed of sound in medium depends upon

1. amplitude
2. frequency
3. wavelength
4. properties of the medium

Answer: 4

SOUND

Question 14: Which of the following will remain unchanged when a sound wave travels in air or in water?

1. Amplitude
2. Wavelength
3. Frequency
4. Speed

Answer: 3

Question 15: A sound source sends waves of 400 Hz. It produces waves of wavelength 2.5 m. The velocity of sound waves is

1. 100 m/s
2. 1000 m/s
3. 10000 m/s
4. 3000 km/s

Answer: 2

Question 16: The time period of a vibrating body is 0.05 s. The frequency of waves it emits is

1. 5 Hz
2. 20 Hz
3. 200 Hz
4. 2 Hz

Answer: 2

Question 17: A source of frequency of 500 Hz emits waves of wavelength 0.4 m, how long does the waves take to travel 600 m?

1. 3 s
2. 6 s
3. 9 s
4. 12 s

Answer: 1

Question 18: Sound and light waves both

1. have similar wavelength
2. obey the laws of reflection
3. travel as longitudinal waves
4. travel through vacuum

Answer: 2

Question 19: The method of detecting the presence, position and direction of motion of distant objects by reflecting a beam of sound waves is known as _____.

1. RADAR
2. SONAR
3. MIR
4. CRO

Answer: 2

SOUND

Question 20: The technique used by bats to find their way or to locate food is _____.

1. SONAR
2. RADAR
3. Echolocation
4. Flapping

Answer: 3

Question 21: An ultrasonic wave is sent from a ship towards the bottom of the sea. It is found that the time interval between the sending and receiving of the wave is 1.6 s. What is the depth of the sea, if the velocity of sound in the seawater is 1400 m/s?

1. 1120 m
2. 560 m
3. 1400 m
4. 112 m

Answer: 1

Question 22: An example for mechanical wave.

1. Radio wave
2. Light wave
3. Infrared radiation
4. Sound wave

Answer: 4

Question 23: Which of the following quantities is transferred during wave propagation?

1. Speed
2. Mass
3. Matter
4. Energy

Answer: 4

Question 24: If a vibrator strikes the water 10 times in one second, then the frequency of wave is _____.

1. 10 Hz
2. 0.5 Hz
3. 5 Hz
4. 0.1 Hz

Answer: 1

Question 25: Unit of wavelength is _____.

1. newton
2. erg
3. dyne
4. angstrom

Answer: 4

SOUND

Question 26: The distance between a compression and the next rarefaction of a longitudinal wave is _____.

1. $\frac{\lambda}{4}$
2. 2λ
3. $\frac{\lambda}{2}$
4. $\frac{\lambda}{8}$

Answer: 3

Question 27: SI Unit of time period is _____.

1. second
2. hour
3. minute
4. nanosecond

Answer: 1

Question 28: The vibrations or the pressure variations inside the inner ear are converted into electrical signals by the _____.

1. cochlea
2. tympanic membrane
3. pinna
4. anvil

Answer: 1

Question 29: Vibrations inside the ear are amplified by the three bones namely the _____ in the middle ear.

1. hammer, anvil and stirrup
2. hammer, anvil and pinna
3. hammer, cochlea and stirrup
4. auditory bone, anvil and stirrup

Answer: 1

Question 30: The persistence of audible sound due to the successive reflections from the surrounding objects even after the source has stopped to produce that sound is called _____.

1. reflection
2. echo
3. reverberation
4. rarefaction

Answer: 3