



PHYSICS

BOOKS - AGRAWAL EXAM CART BIHAR

**SOUND (LOUDNESS, PITCH, AUDIBLE
AND INAUDIBLE SOUND) AND HUMAN
EARS**

Example

1. A sound has a frequency of 5 Hz and a speed of 25 m/s. What is the wavelength of the sound?



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Jvn Previous Years 2007 2020 Questions

1. If we increase the vibration in an object the time period will ----- .

A. increase in same proportion

B. increase in inverse proportion

C. decrease in same proportion

D. decrease in inverse proportion

Answer: D



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2. Ultrasound has frequency of vibration

A. 20 Hz

B. between 20 to 20,000 Hz

C. above 20,000 Hz

D. less than 20 Hz

Answer: C



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3. To increase loudness of sound of vibration of sound.

A. decrease its frequency

B. increase its frequency

C. decrease its amplitude

D. increase its amplitude

Answer: D



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4. If we listen to the sound of lightening 10, after observing, it how far are we from the place where lightening occurs ? (Take, speed of sound = 330 m/s)

A. 825 m

B. 1650 m

C. 3300 m

D. 330 m

Answer: C



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5. The normal range of vocal cords in women is

A. 20 mm

B. 10 mm

C. 15 mm

D. 40 mm

Answer: C



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6. The loudness of sound is determined by the

A. amplitude of vibration

B. ratio of amplitude and frequency

vibration

C. frequency of vibration

D. product of amplitude and frequency of

vibration

Answer: A



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7. The speed of sound is maximum in

A. Air

B. Vacuum

C. Water

D. Steel

Answer: D



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8. The frequency of ultrasound is :

A. Above 20000 vibration/sec

B. Under 20000 vibration/sec

C. Under 20 vibration/sec

D. None of the above

Answer: A



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9. Speed of sound is maximum in:

A. Water

B. Vacuum

C. Air

D. Iron

Answer: C



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10. The speed of sound in air is

A. 220 m/s

B. 232 m/s

C. 332 m/s

D. 432 m/s

Answer: C



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11. For which measurement the 'decibel' is used?

A. Haemoglobin in blood

B. Sound in environment

C. Sugar in urine

D. Water vapour in air

Answer: B



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12. What is the name of the strings which vibrate in our voice box when we talk?

A. Air stem

B. Ear drum

C. Vocal cord

D. Chord

Answer: C



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Important Questions

1. When the bob is in the central position, the forces are

A. balanced

B. unbalanced

C. sometimes balanced and sometimes unbalanced

D. none of these

Answer: A



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2. Which of the following types of electromagnetic radiation travels at the greatest speed in vacuum ?

A. Gamma rays

B. Light waves

C. Radio waves

D. None all travel at same speed

Answer: D



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3. Velocity of sound is minimum in:

A. air

B. helium

C. hydrogen

D. oxygen

Answer: D



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4. Main approaches to reducing noise pollution is:

A. engineering

B. landscape planning

C. legal measures

D. all of these

Answer: D



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5. The vibration inside the inner ear are converted into electrical signals by the:

A. cochlea

B. tympanic membrane

C. pinna

D. anvil

Answer: A



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6. Vibrations inside the ear are amplified by the three bones namely the in the middle ear.

A. hammer, anvil and stirrup

B. hammer, anvil and pinna

C. hammer, cochlea and stirrup

D. cochlea, anvil and stirrup

Answer: A



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7. Bats search out prey and fly in dark night by emitting and detecting reflections of which type of Sound waves?

A. infrasonic waves

B. radio waves

C. electromagnetic waves

D. ultrasonic waves

Answer: D



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8. Sound takes some time to travel from one place to another. It will be maximum

A. at night

B. during winter

C. during summer

D. all the time same

Answer: B



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9. Which of the following is not a characteristic of musical sound?

A. Pitch

B. Wavelength

C. Quality

D. Loudness

Answer: B



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

A. mass

B. energy

C. amplitude

D. wavelength

Answer: C



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11. A body produces sound only if it is

A. made of glass

B. vibrated

C. made of iron

D. plucked

Answer: B



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12. Which of the following will remain unchanged when a sound wave travels in air or in water?

A. Amplitude

B. Wavelength

C. Frequency

D. Speed

Answer: C



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13. In which medium does sound travel faster?

A. Gas

B. Solid

C. Liquid

D. Vacuum

Answer: B



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14. Eardrum is a part of

A. Sound producing organ

B. Skeletal system

C. Hearing organ

D. Reproductive organ

Answer: C



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15. The hearing range of human ear is

A. 20 Hz to 20,000 Hz

B. Less than 20 Hz

C. More than 20,000 Hz

D. 20 Hz to 25,000 Hz

Answer: A



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16. The voice box is called

A. Stomach

B. Heart

C. Larynx

D. Mouth

Answer: C



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17. Large amplitude of sound vibrations will produce

A. Loud sound

B. Meak sound

C. Slow sound

D. Shreak

Answer: A



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18. The pitch of sound depends on

- A. frequency
- B. amplitude
- C. both of these
- D. none of these

Answer: A



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19. Sound is kind of

A. Work

B. Energy

C. Force

D. None

Answer: B



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20. The to and fro motion of an object is called_____.

A. Waves

B. Amplitude

C. Vibration

D. All of the above

Answer: C



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21. Voice box or larynx of human process

A. Sound

B. Wind

C. Loudness

D. None

Answer: A



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22. Sound propagates maximum in:

A. Gas

B. Liquid

C. Solid

D. All

Answer: C



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23. Noise Pollution is harmful for

A. Human

B. Cat

C. Bird

D. All

Answer: D



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24. Sound usually travels through which medium to reach our ears?

A. Air

B. Water

C. Wood

D. Asbestos

Answer: A



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25. What is the speed of sound in air ?

A. 110 m/s

B. 220 m/s

C. 330 m/s

D. 440 m/s

Answer: C



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26. What is the loudness of normal breathing?

A. 10 dB

B. 20 dB

C. 30 dB

D. 40 dB

Answer: A



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27. What is length of vocal cords in man?

A. 5 mm

B. 10 mm

C. 15 mm

D. 20 mm

Answer: D



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28. The normal range of vocal cords in women is

A. 5 mm

B. 10 mm

C. 15 mm

D. 20 mm

Answer: C



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29. A vibrating body should oscillate minimum how many times per second to make an audible sound for humans?

A. 10 times

B. 20 times

C. 30 times

D. 40 times

Answer: B



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30. Which of the following produces noise only?

A. Jet engine

B. Harmonium

C. Flute

D. Guitar

Answer: A



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31. Speed of sound in solids in

Speed of sound in liquids which is

Speed of sound in

A. same as

B. less than

C. greater than

D. sometimes greater and sometimes smaller

Answer: C



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32. Bats search out prey and fly in dark night by emitting and detecting reflections of which type of Sound waves?

A. infrasonic waves

B. electromagnetic waves

C. radio waves

D. ultrasonic waves

Answer: D



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33. Which of the following is not a characteristic of musical sound?

A. Pitch

B. Quality

C. Wavelength

D. Loudness

Answer: A



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34. Sound waves do not travel through

A. solids

B. gases

C. liquids

D. vacuum

Answer: D



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35. One of the following can hear infrasound.

This one is:

A. Dog

B. Rhinoceros

C. Bat

D. Humans

Answer: B



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36. What kind of musical instrument is a sitar?

A. String

B. Membrane

C. Wind

D. None

Answer: A



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37. Identify the part which vibrates to produce sound in the instruments.

Dholak

A. stretched membrane

B. air column

C. stretched strings

D. the vibration of air

Answer: A



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38. The pitch of sound depends on

A. amplitude

B. frequency

C. noise

D. the medium of propagation

Answer: B



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39. A normal human being can hear sounds in the frequency range of _____.

A. between 200-20,000Hz

B. between 200-2000Hz

C. between 20-2000Hz

D. between 20-20,000Hz

Answer: D



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40. SI unit of time period is :

A. second

B. minute

C. hour

D. nanosecond

Answer: A



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41. SI unit of pitch is :

A. Hertz

B. metre

C. m/sec

D. second

Answer: A



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42. A list of mediums is given below.

(i) wood (iii) air

(ii) water (iv) vaccum In which of these mediums can sound travel?

A. (i) & (ii) only

B. (i), (ii) & (iii) only

C. (iii) & (iv) only

D. (i), (iii) & (iv) only

Answer: B



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43. The loudness of sound depends on :

A. its amplitude

B. its frequency

C. its time period

D. its speed

Answer: A



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44. Which of the following statements are correct?

(i) Sound is produced by vibrations.

(ii) Sound requires a medium for propagation.

(iii) Light and sound both require a medium for propagation.

(iv) Sound travels slower than light.

A. (i) & (ii) only

B. (i), (ii) & (iii) only

C. (ii), (iii) & (iv) only

D. (i), (ii) & (iv) only

Answer: D



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45. In order to reduce the loudness of a sound we have to

A. decrease its frequency of vibration of
the sound

B. increase its frequency of vibration of the
sound

C. decrease its amplitude of vibration of
the sound

D. increase its amplitude of vibration of the
sound

Answer: C



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46. Loudness of sound is measured in units of:

A. decibel

B. hertz

C. metre

D. metre/second

Answer: A



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47. The loudness of sound is determined by the

A. amplitude of vibration.

B. ratio of amplitude and frequency of vibration.

C. frequency of vibration.

D. product of amplitude and frequency of vibration.

Answer: A



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48. 1 hertz is equal to :

- A. 1 vibration per minute
- B. 10 vibrations per minute
- C. 60 vibrations per minute
- D. 600 vibrations per minute

Answer: C



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49. Pitch of sound is determined by its

A. frequency

B. amplitude

C. speed

D. loudness

Answer: A



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50. Ultrasound has frequency of vibration

A. between 20 and 20,000 Hz

B. below 20 Hz

C. above 20,000 Hz

D. between 500 and 10,000 Hz

Answer: C



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51. Which part of human ear converts sound vibrations into electrical signals:

A. Hammer

B. Stirrup

C. Tympanic membrane

D. Cochlea

Answer: D



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52. What do dolphins, bats and porpoise use

- A. Ultrasound
- B. Infrasound
- C. Both (A) and (B)
- D. None of them

Answer: A



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53. Children under the age of 5 can hear upto

A. 25 Hz

B. 25k Hz

C. 20 Hz

D. 20 kHz

Answer: B



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54. Speed of sound depends upon :

A. Temperature of the medium

B. Pressure of the medium

C. Temperature of source producing sound

D. Temperature and pressure of medium

Answer: A



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55. Which characteristic is this? We can distinguish between sound having a pitch and loudness.

A. Tone

B. Note

C. Pitch

D. Timber

Answer: D



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56. Loud sound can travel a larger distance due to:

A. Higher amplitude

B. Higher energy

C. High frequency

D. High speed

Answer: B



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57. The sound above..... is painful.

A. 20 dB

B. 40 dB

C. 60 dB

D. 80 dB

Answer: D



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58. The time taken to complete Oscillation (s) is called time period

A. One

B. Ten

C. Two

D. Hundred

Answer: A



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59. To and Fro or back and forth movement of an object is termed as:

A. Frequency

B. Amplitude

C. Vibration

D. Time Period

Answer: C



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60. Which of the following is/are the applications of Ultrasonic Waves ?

(i) For measuring the depth of Sea (ii) In

sterilizing of a liquid (iii) In Ultrasonography

(iv) In sterilizing a needle.

A. (i), (ii) and (iii)

B. Only (iv)

C. Both (iii) and (iv)

D. Only (ii)

Answer: A



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61. What is the speed of sound in air?

A. 330 m/s

B. 332 m/s

C. 334 m/s

D. 336 m/s

Answer: B



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62. What will be the effect of temperature on speed of sound ?

- A. The speed of sound decreases with the increases of temperature of the medium.
- B. The speed of sound decreases with the decrease of temperature of the medium.
- C. The speed of sound increases with the decrease of temperature of the medium.

D. The speed of sound increases with the increase of temperature of the medium.

Answer: D



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63. Name the characteristic of the sound which distinguishes a sharp sound from a grave or dull sound:

A. Intensity

B. Echo

C. Pitch

D. Resonance

Answer: C



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64. What is the unit of loudness?

A. bel

B. phon

C. decibel

D. All of the above

Answer: D



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65. Sound wave cannot pass through above :

A. a solid liquid mixture

B. an ideal gas

C. a liquid gas mixture

D. a perfect vacuum

Answer: D



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66. Sound travel fastest in:

A. steel

B. air

C. water

D. vacuum

Answer: A



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67. Ultrasound waves are those waves :

A. human beings cannot hear

B. human beings can hear

C. have high velocity

D. have large amplitude

Answer: A



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68. With the rise of temperature, the speed of sound in a gas :

A. increase

B. decreases

C. remains the same

D. None of these

Answer: A



69. Decibel is

- A. musical note
- B. musical instrument
- C. unit of intensity of sound
- D. unit of elasticity

Answer: C



70. Pitch of a sound depends on :

A. frequency

B. wavelength

C. amplitude

D. speed

Answer: A



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71. When a sound wave goes from air into water, the quantity that remains unchanged is its :

A. velocity

B. frequency

C. wavelength

D. amplitude

Answer: B



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72. The velocity of sound in a gas depends on:

A. wavelength only

B. density & elasticity of gas

C. intensity only

D. amplitude & frequency

Answer: B



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73. A key of a mechanical piano is struck gently and then struck again but much harder this time. In the second case :

A. sound will be louder but pitch will not be different

B. sound will be louder and pitch will also be higher

C. sound will be louder but pitch will be lower

D. both loudness and pitch will remain unaffected

Answer: D



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74. In SONAR, we use :

A. ultrasonic waves

B. infrasonic waves

C. radio waves

D. audible sound waves

Answer: A



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75. Sound travels in air if :

A. particles of medium travel from one place to another

B. there is no moisture in the atmosphere

C. disturbance moves

D. both particles as well as disturbance
travel from one place to another.

Answer: C



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

A. Frequency

B. Amplitude

C. Velocity

D. Wavelength

Answer: B



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77. Earthquake produces which kind of sound before the main shock wave begins :

A. Ultrasound

B. Infrasound

C. audible sound

D. none of these

Answer: B



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78. Infrasound can be heard by :

A. Dog

B. Bat

C. Rhinoceros

D. human beings

Answer: C



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79. Which one of the following statements is wrong?

A. Sound travels in straight line

B. Sound travels as waves

C. Sound is a form of energy

D. travels faster in vacuum than in air

Answer: D



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80. An astronaut can't hear his companion at the surface of the moon because :

A. produced frequencies are above the audio frequency

B. there is no medium for sound propagation

C. temperature is too low during night and too high during day

D. there are too many craters on the surface of the moon

Answer: B



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