PHYSICS

BOOKS - SURA PUBLICATION

Sound

Exercise

1. Sound waves travel very fast in _____.

A. air

B. metals

C. vacuum

D. liquids

Answer:

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2. Which of the following are the characteristice of vibrations?

A. Frequency

B. Time period

C. Pitch

D. Loudeness

Answer:

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3. The amplitude of the sound wave decides it's ____.

A. speed

B. pitch

C. loudeness

D. frequency

Answer:

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4. What kind of musical instrument is a sitar?

A. String instrument

B. Percussion instrument

C. Wind instrument

D. None of these

Answer:

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5. Find the odd one out.

A. Harmonium

B. Flute

C. Nadaswaram

D. Violin

Answer:

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6. Noise is produced by _____

A. vibration with high frequency

B. regular viberation

C. regular and periodic viberation

D. irregular and non-periodic vibration

Answer:

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7. The range of audible frequency for thr human ear is _____.

A. 2 Hz to 2000 Hz

B. 20 Hz to 2000 Hz

C. 20 Hz to 20000 Hz

D. 200 Hz to 20000 Hz

Answer:

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8. If the amplitude and frequency of a sound wear are increased, which of the following is true?

A. Loudness increases and pitch is higher

B. Loudness increases and pitch is unchanged

C. Loudeness increases and pitch is lower

D. Loudeness decreases and pitch is lower

Answer:

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9. Sound is produced by _____.

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10. The vibations of a simpel pendulum are also known as ____.

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11. Sound travels in the form of _____.

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12. High freqency sounds that cannot be heard by you ate called ____.

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13. pitch of a sound depends on the ____ viberation.

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14. If the thickness of a vibrating string is increased, its pitch ____.?

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15. Assertion & Reason : Direction : Mark the correct choice as : Assertion : When lightning strikes, the sound is heard a little after the flash is seen. Reason : The velocity of light is greater then of the sound.

A. If both assertion and reson are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of

assertion.

C. If the assertion and reason is false.

D. If both assertion and reason are false,

Answer:

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16. Assertion & Reason : Direction : Mark the correct choice as : Assertion : Two persons on the surface of moon cannot talk to each other. Reason : There is no atmosphere on moon.

A. If both assertion and reson are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of assertion.

C. If the assertion and reason is false.

D. If both assertion and reason are false,

Answer:

17. Sound cannot travel through ____.

A. Solid

B. liquid

C. vacuum

D. air

Answer:

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18. Vibration in a body produce ____.

A. pressure

B. sound

C. density

D. current

Answer:

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19. Frequency is expressed in ____.

A. hertz

B. metre

C. kilogram

D. second

Answer:

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20. Unwanted sounds are called ____.

A. noise

B. music

C. both a and b

D. None

Answer:

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21. pitch of sound is determined by its ____.

A. speed

B. loudness

C. amplitude

D. frequency

Answer:

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22. The hearing range of human ear is _____.

A. 20 Hz to 20 k Hz

B. less then 20 Hz

C. more than 20 k Hz

D. none

Answer:

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23. The voices of men, women and children differ because of difference in their ____.

A. lungs

B. vocal cords

C. larynx

D. wind pipe

Answer:

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24. The time taken for one complete vibration is called its ___.

A. loudness

B. pitch

C. time period

D. frequency

Answer:

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25. _____ instruments produce a specific sound when they are struck, scrapped or clashed together.

A. Reed

B. Stringed

C. Percussion

D. None

Answer:

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26. Bats produce ___ sound during screaming.

A. infrasonic

B. ultrasonic

C. noise

D. none

Answer:

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27. The outer and visible part of the human ear is called ____.

A. ear drum

B. cochlea

C. pinna

D. canal

Answer:

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28. ___ is produced by the regular patterns of vibration.

A. Music

B. ultrasonic

C. Ear drum

D. none

Answer:

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29. The speed of sound ____ with increase in humidity.

A. decreases

B. increases

C. remains same

D. none

Answer:

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30. Transverse waves are produced only in _ and liquids.

A. solids

B. gases

C. both a and b

D. none

Answer:

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31. A device used in laboratory to produce pure sound of some particular frequency is called ___.

A. tuning fork

B. sonar

C. sonometer

D. none

Answer:

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32. ___ is produced when an object is set to vibrate.

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33. The substance through which sound is transmitted is called ___.

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34. Sound cannot travel in ____.

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35. The speed of sound is ____ in solids than in liquids.

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36. _____ is the distancc between two consecutive particles, which are in the same phase of vibration.

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37. ____ is the number of vibrations in the medium in one second.

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38. In any medium, as the ____ increases, the speed of sound also increases.

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39. The speed of sound in air is $331ms^{-1}$ at __and__ at $22^{\circ}C$.

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40. The unit of frequency is _____.

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41. The amount of water vapour in the air is known as___.

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42. The _____ of air decreases with increase in humidity.

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43. The region of high pressure is called as ___ and the region of low pressure is called as _____.

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44. _____waves are produced only in solids and liquids.

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45. The unit of amplitude is ___.

Watch Video Solution

46. The unit of loudness is__.

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47. The natural frequencies are known as the____ of the guitar string.

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48. The Larynx has two ligaments called _____stretched across it.

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49. The outer and visible part of the human ear is called ____.

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50. _____is produced by the irregular and non-periodic vibrations.

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51. Males generally have _____ and_____ vocal cords that produce a deeper, low pitch sound in comparison with females.

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52. Mark the correct choice as : (a) Both assertion and reason are true and reason is the correct explanation of assertion. (b) Both assertion and reason are true but reason is not the correct explanation of assertion. (c) Assertion is true but reason is false. (d) Assertion is false but reason is true. (e) Both Assertion and reason are false. Assertion : Sound waves do not travel through vacuum. Reason : The speed of sound is too small when compared to speed of light.

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53. Mark the correct choice as : (a) Both assertion and reason are true and reason is the correct explanation of assertion. (b) Both assertion and reason are true but reason is not the correct explanation of assertion. (c) Assertion is true but reason is false. (d) Assertion is false but reason is true. (e) Both Assertion and reason are false.Reason : Sound is mechanical wave, which require medium to travel. Assertion : We cannot hear the sound

produced by a vibrating pendulum. Reason : The frequency of the pendulum is very less.

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54. Mark the correct choice as : (a) Both assertion and reason are true and reason is the correct explanation of assertion. (b) Both assertion and reason are true but reason is not the correct explanation of assertion. (c) Assertion is true but reason is false. (d) Assertion is false but reason is true. (e) Both

Assertion and reason are false. Assertion : Trees should be planted along the road to control noise pollution. Reason : Trees act as noise buffers.

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55. Mark the correct choice as : (a) Both assertion and reason are true and reason is the correct explanation of assertion. (b) Both assertion and reason are true but reason is not the correct explanation of assertion. (c)

Assertion is true but reason is false. (d) Assertion is false but reason is true. (e) Both Assertion and reason are false.Assertion : Women have shriller sound than men. Reason : Men produced higher frequency sound than women.

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56. Solve the following cross word with the help of the given clues : Clues Across : The

bouncing back of sound wave when it strikes a hard surface.

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57. Solve the following cross word with the help of the given clues : Clues Across : Form of matter of fixed shape other than liquid or gas.

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58. Solve the following cross word with the help of the given clues : Clues Across : Maximum distance moved by a vibrating body form its position of rest.

Watch Video Solution

59. Solve the following cross word with the help of the given clues : Clues Across : Waves which need a material medium for its propagation.

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60. Solve the following cross word with the help of the given clues : Clues Across : A kind of raepid to and fro motion of an object.

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61. Solve the following cross word with the help of the given clues : Clues Across : Down : A unit used to measure the loudness or intensity of sound.

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62. Solve the following cross word with the help of the given clues : Clues Across : Sound wave whose frequency is too high to be heard by humans.

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63. Solve the following cross word with the help of the given clues : Clues Across : Sound

wave whose frequency is too high to be heard by humans.

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64. Solve the following cross word with the help of the given clues : Clues Across : A reflection of sound.

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65. Solve the following cross word with the help of the given clues : Clues Across : The branch of science deals with the study of seismic waves.

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66. Transverse waves are produced only in _ and liquids.

A. solids

B. gases

C. both a and b

D. none

Answer:

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67. The amplitude of the sound wave decides it's

A. speed

B. pitch

C. loudness

D. frequency

Answer:

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68. Frequency is expressed in

A. hertz

B. metre

C. kilogram

D. second

Answer:

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69. The vibrations of a simple pendulum are also known as ____.

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70. The outer and visible part of the human ear is called ____.

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71. The amount of water vapour in the air is known as___.

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72. True or False - if false, give the correct statement : The frequency of sound is varied by varying the length of the vibrating wire.

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73. Write true or false, if false, correct the statement. : Longitudinal waves are produced in solids liquids and also in gases.

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74. What is the name of the sound produced by irregular vibrations?

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75. What are vibrations?

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76. What is an ultrasonic sound?

Watch Video Solution

77. Mention any two ways to control noise pollution.

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78. Give two differences between music and noise.

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79. What are the uses of infrasonic sound?

Watch Video Solution

80. Describe an experiment to show that sound cannot travel through vacuum.

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81. Describe the structure of cilia.

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Example

1. What are vibrations?

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2. Give an example to show that travels faster then sound.

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3. To increase loudness of sound by four times, how much should the amplitude of vibration be changed?

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4. What is an ultrasonic sound?

Watch Video Solution

5. Give two difference between music and noise.

Watch Video Solution

6. What are the hazards of noise pollution?

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7. What is the frequency of a mechanical wave that has a velocity of $25ms^{-1}$ and a

wevelength of $12.5m$?

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8. A wave with a frequency of 500 Hz is travelling at a speed of $200m^{-1}$ what is the wavelenhth?

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9. True or False - if false, give the correct statement : The seismic wave formed during

earthquake is an example for a transverse wave

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10. True or False - if false, give the correct statement : The loudness of a sound depends on its pitch.

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11. True or False - if false, give the correct statement : The pitch is the characteristic of sound that enables us to distinguish between a flat sound and a shrill sound.

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12. True or False - if false, give the correct statement : The voice of a female has a lower pitch than a male.

Watch Video Solution

13. Write true or false, if false, correct the statement. : Longitudinal waves are produced in solids liquids and also in gases.

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14. True or False - if false, give the correct statement : Sound with the frequency ranging from 20 Hz to 20,000 Hz is called sonic sound.

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15. True or False - if false, give the correct statement : In a transverse wave, the particles of the medium vibrate in a direction, which is parallel to the direction of propagation of the wave.

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16. True or False - if false, give the correct statement : Sir Issac Newton invented the

phonograph, a device that played the recorded sound.

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17. True or False - if false, give the correct statement : Sound is produced by vibrating bodies.

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18. True or False - if false, give the correct statement : The frequency of sound is varied by varying the length of the vibrating wire.

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19. Pick out the odd one and give reason : Trumpet, Flute, Saxophone, Mouthorgan.

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20. Pick out the odd one and give reason : Drum, Violin, Guitar, Sitar.

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21. Pick out the odd one and give reason : Sonar, Galton's whistle, Sonogram, hydrophone.

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22. In which medium the speed of the sound is maximum?

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23. On which factor pitch of the sound depends?

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24. What types of medium is required for sound to travel?

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25. Can sound travel through vacuum?

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26. Do the frequency of sound produced by Men and Women are same?

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27. Name the sound producing organ in human.

Watch Video Solution

28. What is the name of the sound produced by irregular vibrations?

Watch Video Solution

29. Mention the name of passage is the outer ear which carries sound waves to the eardrum.

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30. What happens to the speed of sound when it gases from solid to gaseous state?

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31. What is the lowest limit of audible frequency?

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32. Define the term frequency.

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33. Derive the mathematical relation between the frequency and the time period of a sound

wave.

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34. Write any two uses of ultrasonic sound.

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35. What do you understand by the term echo?

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36. What are the uses of infrasonic sound?

Watch Video Solution

37. What are the symptoms of hearing loss?

Watch Video Solution

38. What is meant by audible sound?

Watch Video Solution

39. Mention any two ways to control noise pollution.

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40. Explain the four types of musical instruments with examples.

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41. Explain the types of mechanical wave.

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42. Draw and explain larynx and its functions.

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43. A sound has a frequency of 60 Hz and a wavelength of 20 m. What is the speed of the sound?

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44. A sound has a wavelength of 50 m and a speed of 10 ms 1. What is the frequency of the sound wave?

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