

Chapter-5

Worksheet-2

Section 1

- Q1. What do you mean by oscillatory motion?
- Q2. How does a stretched string on being set into vibration, produce the audible sound?
- Q3. 20 waves pass through a point in 2 seconds. If the distance between one crest and adjacent trough is 1.5 m. Calculate (a) the frequency. (b) the wavelength.
- Q4. Name the subjective property of sound related to its frequency and of light related to its wavelength.
- Q5. If the amplitude of a wave is doubled, what will be the effect on its loudness?
- Q6. Differentiate between musical sound and noise.
- Q7. How is sound produced and how is it transmitted and heard by us?
- Q8. What is the function of hair and wax in ear canal?
- Q9. Sound made in front of a tall building 18 m away is repeated. Name the phenomenon and briefly explain it.
- Q10. A Sonar emits pulses on the surface of water which are detected after reflection from the bottom. If the time interval between the emission and detection of the pulse is 2 s, find the depth of water. Take velocity of sound in water as 1531 ms^{-1} .

Section 2

- Q11. Equivalent unit of Hertz is

- a) m^{-1}
- b) s^{-1}
- c) $(\text{m/s})^{-1}$
- d) N^{-1}

Answer: b

Q12. Above _____ dB the sound becomes physically painful

- a) 60
- b) 40
- c) 120
- d) 80

Answer: d

Q13. When the amplitude of vibration is large, sound produced is

- a) No sound
- b) Feeble
- c) Loud
- d) There is no relation between amplitude and sound

Answer: c

Q14. A child hears an echo from a cliff 4 seconds after the sound from a powerful cracker is produced. How far away is the cliff from the child? (Take velocity of sound in air as 340 ms^{-1})

- a) 540 m
- b) 580 m
- c) 680 m
- d) 640 m

Answer: c

Q15. Voice of man is heavy compared to a woman because

- a) Female vocal cord is longer
- b) Male vocal cord is shorter
- c) Male vocal cord is longer
- d) The concept is not related

Answer: c

Q16. Frequency of sound is lowest for

- a) Man
- b) Woman
- c) Young Boy
- d) Young Girl

Answer: a

Q17. Two children are at opposite ends of an aluminium rod. One strikes the end of the rod with a stone. Find the ratio of times taken by the sound wave in air and in aluminium to reach the second child. Given, velocity of sound in air and aluminium are 346 ms^{-1} and 6420 ms^{-1} respectively.

- a) 1: 15.32
- b) 1: 17.13
- c) 1: 18.55
- d) 1: 26.22

Answer: c

Q18. For an oscillating pendulum of fixed length, which of the following is true?

- a) frequency depends on amplitude of oscillation
- b) frequency and time period are not related.
- c) time period depends on amplitude of oscillation

d) frequency and time period are related and do not depend on amplitude of oscillation.

Answer: d

Q19. Which one of the following material will reflect sound better?

- a) Thermocol
- b) Curtain made from cloth
- c) Steel
- d) Paper

Answer: c

Q20. Shrill sound is of

- a) Lower frequency
- b) Higher Frequency
- c) Higher Amplitude
- d) Lower Amplitude

Answer: b