

Chapter-5

Worksheet-3

Section 1

- Q1. What is Sound? Explain in brief.
- Q2. With the help of a labelled diagram show that sound needs a material medium for its propagation.
- Q3. Draw a well labelled diagram of the human ear. Explain its working.
- Q4. What are ultrasound and infrasound waves? Why cannot we hear them?
- Q5. How vibration of particles is related with sound?
- Q6. How does the sound produced by a musical instrument, reach your ears? Astronauts need radio transmitter to talk to each other on moon. Why?
- Q7. How Sound travels? Explain the phenomenon in brief.
- Q8. What is reverberation? How can it be reduced?
- Q9. Prove that: $v = f\lambda$, where the symbols have their usual meanings.
- Q10. Explain the working and application of SONAR?

Section 2

- Q11. The _____ is the visible portion of the outer ear.
- a) Incus
 - b) Stapes
 - c) Auricle
 - d) Malleus

Answer: c

Q12. 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

Q13. If the frequency of a tuning fork is 400 Hz and the speed of sound in air is 340 ms^{-1} . Find how far sound travels when tuning fork makes 16 vibrations.

- a) 13.6 m
- b) 11.2 m
- c) 10.7 m
- d) 16.2 m

Answer: a

Q14. Cochlea is a part of

- a) Hearing organ
- b) Sound producing organ
- c) Muscular organ
- d) Air pollution

Answer: a

Q15. 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

Q16. Sound cannot travel through

- a) Water
- b) Air
- c) Solids
- d) Vacuum

Answer: d

Q17. A human heart on an average is found to beat 75 times a minute. Calculate its frequency.

- a) 1 Hz
- b) 1.25 Hz
- c) 1.50 Hz
- d) 1.75 Hz

Answer: b

Q18. A pendulum oscillates 20 times in 4 seconds. Find its time period.

- a) 0.05 sec
- b) 0.001 sec
- c) 0.2 sec
- d) 0.1 sec

Answer: c

Q19. The number of vibrations made by a vibrating body in one second is

- a) frequency

- b) noise
- c) loudness
- d) pitch

Answer: a

Q20. A source of a wave produces 30 crests and 30 troughs in 0.3 seconds. What is the time period of the wave?

- a) 1 s
- b) 1/10 sec
- c) 1/100 sec
- d) 1/1000 sec

Answer: c

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