



Class 11 Physics | Waves

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. A wave has frequency 50 Hz and wavelength 2 m. Speed is:

- A. 100 m/s B. 0.04 m/s C. 25 m/s D. 52 m/s

2. In a transverse wave, particles oscillate:

- A. Parallel to propagation
B. Along the wave at wave speed
C. Perpendicular to propagation
D. Only in circles

3. Sound in air is primarily:

- A. Transverse B. A matter wave
C. Electromagnetic D. Longitudinal

4. Wave speed on a stretched string is:

- A. $\sqrt{T/\mu}$ B. $T\mu$ C. T/μ D. $\sqrt{(\mu/T)}$

5. String tension becomes four times at fixed μ . Wave speed becomes:

- A. Four times B. Twice C. Unchanged D. Half

6. For $y=0.02 \sin(4\pi x-20\pi t)$ in SI units, frequency is:

- A. 20 Hz B. 2 Hz C. 10 Hz D. 5 Hz

7. For that wave, wavelength is:

- A. 2 m B. 4 m C. 0.5 m D. 0.1 m

8. The form $\sin(kx-\omega t)$ represents travel along:

- A. Positive x-direction B. Positive y-direction
C. No propagation D. Negative x-direction

9. Two coherent equal-amplitude waves in phase produce amplitude:

- A. 2A B. A C. 0 D. 4A

10. For equal-amplitude waves with phase difference π , resultant amplitude is:

- A. Zero B. $\sqrt{2}A$ C. A D. 2A

11. In a standing wave, adjacent nodes are separated by:

- A. λ B. $\lambda/4$ C. 2λ D. $\lambda/2$

12. A node and its nearest antinode are separated by:

- A. $\lambda/2$ B. λ C. $\lambda/4$ D. 2λ

13. A string of length L fixed at both ends has fundamental frequency:

- A. $2v/L$ B. $v/(2L)$ C. v/L D. $v/(4L)$

14. A pipe closed at one end has fundamental frequency:

- A. $v/(2L)$ B. $4v/L$ C. $v/(4L)$ D. v/L

15. Two tuning forks have frequencies 256 and 260 Hz. Beat frequency is:

- A. 4 Hz B. 2 Hz C. 258 Hz D. 516 Hz

ANSWER KEY — check after completing all 15 questions

1.A 2.C 3.D 4.A 5.B 6.C 7.C 8.A 9.A 10.A 11.D 12.C 13.B 14.C 15.A

Original exam-style practice • Reference notes: www.physics.guru/cbse-practice-papers/ • Not an official paper