

Objective Type Questions & Answers

Select the best answer for the following MCQs:

1) The waves in which the particles of the medium vibrate at right angle to the direction of the wave motion are called,

- (a) compressional waves (b) longitudinal waves
(c) electromagnetic waves (d) transverse waves

2) Waves formed on the surface of water,

- (a) stationary waves (b) transverse waves
(c) longitudinal waves (d) electromagnetic waves

3) The waves which do not require any medium for their propagation are called,

- (a) sound waves (b) water waves
(c) transverse waves (d) electromagnetic waves

4) Crest and trough are formed in,

- (a) compressional waves (b) stationary waves
(c) longitudinal waves (d) transverse waves

5) The speed of the waves in terms of frequency f and wavelength λ is given by,

- (a) $v = f\lambda$ (b) $v = \frac{\lambda}{f}$ c. $v = \frac{f}{\lambda}$ d. $v = \frac{f^2}{\lambda}$

6) The distance between two consecutive nodes is,

- (a) λ (b) 2λ c. $\frac{\lambda}{2}$ d. $\frac{\lambda}{4}$

7) The distance between a node and the next antinode is.

- (a) λ (b) 2λ c. $\frac{\lambda}{2}$ d. $\frac{\lambda}{4}$

8) The distance between a crest and a trough is equal to,

- (a) λ (b) 2λ c. $\frac{\lambda}{2}$ d. $\frac{\lambda}{4}$

9) Sound waves in air are,

- (a) longitudinal waves (b) transverse waves
(c) matter waves (d) electromagnetic waves

10) The velocity of sound in vacuum is,

- (a) 300 ms^{-1} (b) 332 ms^{-1} (c) zero ms^{-1} (d) 280 ms^{-1}

11) Increase in velocity of sound in air due to increase in temperature by 1°C is,

- (a) 0.61 ms^{-1} (b) 1.61 ms^{-1} (c) 2 ms^{-1} (d) 61 ms^{-1}

12) When sound waves enter in different medium, the quantity that remains unchanged is,

- (a) speed (b) intensity (c) frequency (d) wavelength

13) Sound of frequencies higher than 20,000 hertz are,

- (a) supersonics (b) audible (c) ultrasonic (d) none of these

14) Two tuning forks of frequencies 260 hertz and 256 hertz are sounded together, the number of beats/secs is,

- (a) zero (b) 2 (c) 4 (d) 256

15) Doppler effect applies to,

- (a) sound waves (b) light waves
(c) both sound and light waves (d) none of these

16) Radar is a device which transmits and receives,

- (a) heat waves (b) electromagnetic waves
(c) radio waves (d) matter waves

17) The stationary waves are produced when two identical waves are moving on the string along,

- (a) same direction (b) opposite direction
(c) perpendicular direction (d) none of these

18) When the bob of the simple pendulum is at the mean position, the value of the P.E. is,

- (a) zero (b) minimum (c) maximum (d) infinite

19) The phenomenon of interference comes out because waves obey,

(a) law of conservation of energy

(b) 1st law of thermodynamics

(c) the inverse square law

(d) the principle of superposition of

waves

