



Video Solution on Website:-

<https://physicsaholics.com/home/courseDetails/95>

Video Solution on YouTube:-

<https://youtu.be/WMdOCLHpD50>

Written Solution on Website:-

<https://physicsaholics.com/note/notesDetailis/44>

- Q 1. The intensity of a sound wave gets reduced by 20% on passing through a slab. The reduction intensity on passage through two such consecutive slabs
- (a) 40% (b) 36%
(c) 30% (d) 50%
- Q 2. Two waves of equal frequencies have their amplitudes in the ratio of 3:5. They are superimposed on each other. Calculate the ratio of maximum and minimum intensities of the resultant wave.
- (a) $\frac{16}{1}$ (b) $\frac{4}{1}$
(c) $\frac{9}{16}$ (d) $\frac{25}{16}$
- Q 3. If the ratio of intensities of two sound waves is 1 : 25, then the ratio of their amplitudes will be
- (a) 1 : 25 (b) 5 : 1
(c) 25 : 24 (d) 1 : 5
- Q 4. When two sound waves with a phase difference of $\pi/2$, and each having amplitude A and frequency ω , are superimposed on each other, then the maximum amplitude and frequency of resultant wave is
- (a) $\frac{A}{\sqrt{2}}, \frac{\omega}{2}$ (b) $\frac{A}{\sqrt{2}}, \omega$
(c) $\sqrt{2}A, \frac{\omega}{2}$ (d) $\sqrt{2}A, \omega$
- Q 5. Two sound waves with amplitude 4cm and 3cm interfere with a phase difference of
- (a) 0 (b) $\pi/3$ (c) $\pi/2$ (d) π
- Find the resultant amplitude in each case.
- (a) 5 cm, 6 cm, 7 cm, 1 cm
(b) 7 cm, $\sqrt{27}$ cm, 6 cm, 7 cm
(c) 5 cm, $\sqrt{39}$ cm, 1 cm, 5 cm
(d) 7 cm, $\sqrt{37}$ cm, 5 cm, 1 cm
- Q 6. When a sound wave of frequency 30 Hz enters a medium, then maximum displacement of medium particles is 1 cm. The maximum velocity of the particles will be
- (a) 60π cm/s (b) 30π cm/s
(c) 30 cm/s (d) 60 cm/s



- Q 7. Loudness of sound increases with:
- (a) The increase in distance from the source of sound
 - (b) The decrease in frequency of vibrating body
 - (c) The increase in surface area of vibrating body
 - (d) The amplitude of vibrating body
- Q 8. The minimum intensity of audibility of sound is 10^{-12} watt/ m^2 . If the intensity of sound is 10^{-9} watt/ m^2 , then calculate the intensity level of this sound in decibels
- (a) 30 dB
 - (b) 20 dB
 - (c) 10 dB
 - (d) 50 dB
- Q 9. A sound of intensity I is greater by 3.0103 dB from another sound of intensity 10 nW/ cm^2 . The absolute value of intensity of sound level I in W/ m^2
- (a) 2.5×10^{-3}
 - (b) 2×10^{-4}
 - (c) 2×10^{-2}
 - (d) 2.5×10^{-2}
- Q 10. Two identical sounds S_1 and S_2 reach at a point P in phase. The resultant loudness at point P is n dB higher than the loudness of S_1 . the value of n is [Take $\log 2 = 0.3$]
- (a) 2
 - (b) 4
 - (c) 9
 - (d) 6
- Q 11. A point source emits sound waves with an average power output of 80.0 W (a) Find the intensity 3.00 m from the source. (b) find the distance at which the intensity of the sound is 1.00×10^{-8} W/ m^2
- (a) 0.707 W/ m^2 , 5.2 km
 - (b) 1.07 W/ m^2 , 25.2 km
 - (c) 0.707 W/ m^2 , 25.2 km
 - (d) 1.07 W/ m^2 , 5.2 km
- Q 12. At a distance $r = 100$ m from a isotropic point sources of sound 200 Hz the loudness level is $L = 50$ dB. The standard intensity level, i.e., intensity level just audible to human ear is $I_0 = 0.1$ nW/ m^2 . Find the sonic power of the source
- (a) 7 W
 - (b) 5 W
 - (c) 15 W
 - (d) 1.25 W
- Q 13. The sound level at a point 5.0 m away from a point source is 40 dB. What will be the level at a point 50 m away from the source ?
- (a) 10 dB
 - (b) 20 dB
 - (c) 30 dB
 - (d) 40 dB
- Q 14. Quality of sound depends on
- (a) Intensity
 - (b) Loudness
 - (c) Wave form
 - (d) Frequency
- Q 15. The loudness and the pitch of a sound depends on
- (a) intensity and velocity
 - (b) frequency and velocity
 - (c) intensity and frequency
 - (d) frequency and number of harmonics



Answer Key

Q.1 b	Q.2 a	Q.3 d	Q.4 d	Q.5 d
Q.6 a	Q.7 d	Q.8 a	Q.9 b	Q.10 d
Q.11 c	Q.12 d	Q.13 b	Q.14 c	Q.15 c

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