Page 209
Solution 85
(a) Echo
(b) Sound gets reflected back
(c) Incident sound travels distance = 800 m
Sound after reflection travels = 800 m
Total distance travelled by sound = 800 + 800 = 1600 m
(d) Distance of cliff, d = 800 m
Time taken to listen to the echo = 5 s

(a) Echo

(b) Sound gets reflected back

(c) Incident sound travels distance = 800 m

Sound after reflection travels = 800 m

Total distance travelled by sound = 800 + 800 = 1600 m

(d) Distance of cliff, d = 800 m

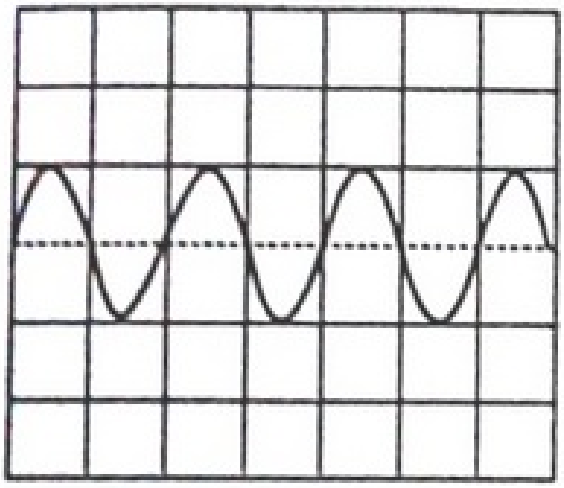
Time taken to listen to the echo = 5 s

So time taken by sound to reach the cliff, $t = \frac{5}{2} = 2.5\ s$

Speed of sound $= \frac{d}{t} = \frac{800}{2.5} = 320\ m/s$

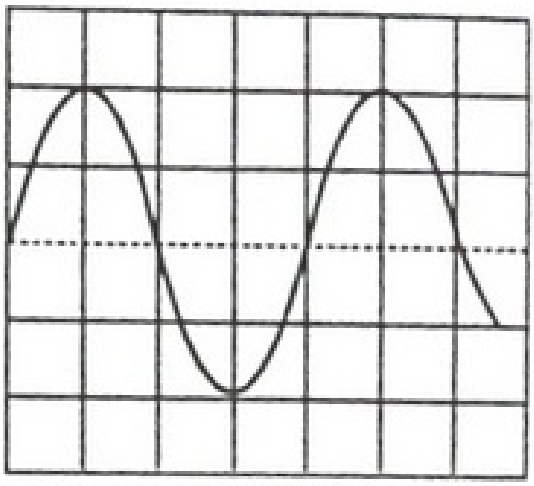
Page 210
Solution 86
(a) A and D
(b) B and D
(c) Same vibrating body produced all the sound wvaes
(d) Tuning forks
Solution 87
(a) The air in-between Anhad and the loudspeaker vibrates with the frequency of 200 Hz
(b) Anhad receives sound in the right ear by the sound waves coming directly from the loudspeaker and in his left ear he receives sound from sound waves reflected from the classroom wall.
Solution 88

(a)



(Y)

(b)



(Z)

Solution 89
a)
(i) X is ultrasonic sound
(ii) Y is infrasonic sound
(iii) Z is audible sound
(b) Ultrasound machine in hospitals
(c) Simple pendulum
(d) Loudspeaker
(e) 20 Hz to 20000 Hz
Solution 90
(a) The person would hear a lot of noise of heavy traffic in a city.
(b) The person would hear very little noise of traffic in a village.
(c) The person would hear echoes of persons talking in a bare room.
(d) The person will find furnished room less echoic.

********** END **********