Sound

Assertion & Reason Type Questions

Directions : Each of the following questions consists of two statements, one is Assertion (A) and the other is Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below:

a. Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

b. Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).

c. Assertion (A) is true but Reason (R) is false.

d. Assertion (A) is false but Reason (R) is true.

Q1. Assertion (A): The sound of the human voice is produced due to vibrations in the vocal cords.

Reason (R): Vibrations means a kind of rapid to and fro motion of an object.

Answer : (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).

Q2. Assertion (A): When lightning strikes, the sound is heard a little after the flash is seen.

Reason (R): The velocity of light is greater than that of the sound.

Answer : (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

Q3. Assertion (A): Light is a transverse wave and not a mechanical wave.

Reason (R): Particles of the medium vibrate up and down at right angles to the direction in which the transverse waves are propagated.

Answer : (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).

Q4. Assertion (A): Sound waves are mechanical waves.

Reason (R): Sound waves require a material medium for their propagation and



they cannot propagate through vacuum.

Answer : (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

Q5. Assertion (A): Intensity of sound wave does not change when the listener moves towards or away from the stationary source.

Reason (R): The motion of listener causes the apparent change in wavelength.

Answer : (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).

Q6. Assertion (A): To hear a distinct echo the time interval between the original sound and reflected one must be at least 0.1 s.

Reason (R): The sensation of sound persists in our brain for about 0.1 s.

Answer : (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

Q7. Assertion (A): Roof and walls of the auditorium are generally covered with compressed fibre board and draperies.

Reason (R): This is done to prevent reverberation.

Answer : (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

