

# CBT --DECEMBER-- 2025:CLASS IX SCIENCE SOUND QUESTION PAPER

Total points 1/10 

Question paper has 3 cases/paragraph based on the chapter SOUND. There are total 10 questions carrying 1 mark each (8 MCQ and 2 A&R Que.)

The respondent's email ([hemendertgtsc80343.1gwls1@kvsrobpl.online](mailto:hemendertgtsc80343.1gwls1@kvsrobpl.online)) was recorded on submission of this form.

**✗ Question number 1 and 2 consists of two statements, namely, Assertion (A) and Reason (R). 0/1**

**1.Assertion: Bats fly in dark nights by emitting and detecting reflections of ultrasonic sounds.**

**Reason : Humans are not able to hear the high pitched ultrasonic squeaks of bats.**

**Select the correct answer from the following**

- (a) Both Assertion (A) and Reason (R) are the true and Reason (R) is a correct explanation of Assertion (A).
- (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not a correct explanation of Assertion (A).
- (c) Assertion (A) is true and Reason (R) is false. **✗**
- (d) Assertion (A) is false and Reason (R) is true

**Correct answer**

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

**Feedback**

*correct Ans is option (a) humans cannot hear ultrasound*



✗ 2.Assertion: Sound cannot travel in vacuum.  
Reason: Sound requires a medium for propagation.

0/1

Select the correct answer from the following

- (a) Both Assertion (A) and Reason (R) are the true and Reason (R) is a correct explanation of Assertion (A).
- (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not a correct explanation of Assertion (A). ✗
- (c) Assertion (A) is true and Reason (R) is false.
- (d) Assertion (A) is false and Reason (R) is true

Correct answer

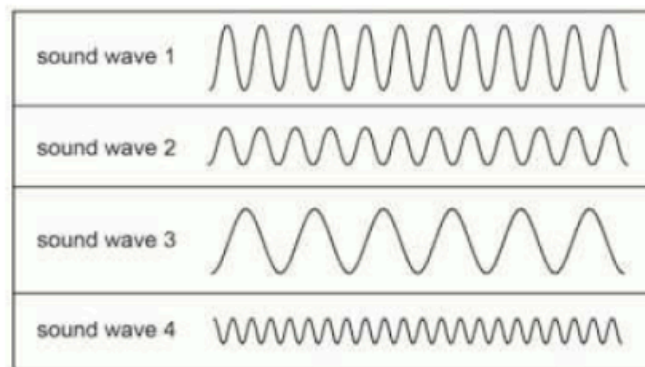
- (a) Both Assertion (A) and Reason (R) are the true and Reason (R) is a correct explanation of Assertion (A).

Feedback

correct Ans is (a)

Question number 3, 4 and 5 are based on the given picture.

The picture shows four sound waves.



✓ 3. Which sound wave has the highest frequency?

1/1

- A. Sound wave 1
- B. Sound wave 2
- C. Sound wave 3
- D. Sound wave 4



✗ 4. Which two sound waves have almost the same loudness?

0/1

- A. Sound wave 1 and sound wave 2
- B. Sound wave 2 and sound wave 4
- C. Sound wave 1 and sound wave 3
- D. Sound wave 3 and sound wave 4



Correct answer

- C. Sound wave 1 and sound wave 3

**Feedback**

*AS WAVE 1 AND WAVE 3 HAS ALMOST EQUAL VERTICAL DISPLACEMENT IN SAME TIME.*



✗ 5. Which sound wave has the least frequency?

0/1

- A. Sound wave 1
- B. Sound wave 2
- C. Sound wave 3
- D. Sound wave 4

✗

Correct answer

- C. Sound wave 3

Feedback

AS ITS HAS LESS NUMBER OF OSSCILATIONS/WAVES IN SAME TIME.

Question number 6, 7 and 8 are based on the given chart.

Sound intensity is the total amount of energy in a sound wave. Decibel (dB) is the unit of intensity.

The chart shows the permissible time for listening to different sounds



✘ 6. Which of these actions does not follow the permissible exposure time of hearing? 0/1

- A. Reading in a library for 5 hours
- B. Riding a sports bike for 10 minutes ✘
- C. Dining at a restaurant table for an hour
- D. Sitting in the front row of a rock concert for 30 minutes

Correct answer

- D. Sitting in the front row of a rock concert for 30 minutes

Feedback

*AS THIS ACTIVITY WILL AFFECT OUR EARS AS WELL AS OUR HEALTH.*

✘ 7. Which of these depends on the intensity of a sound? 0/1

- Speed of sound ✘
- loudness of sound
- frequency of sound
- pitch of sound

Correct answer

- loudness of sound

Feedback

*as loudness is related to the intensity which decides how much loud will be sound will be.*



✘ 8. As per the chart given above, intensity of sound above how much decibel is unhealthy for our ears ? 0/1

- Above 85 dB
- Above 95 dB
- Above 110 dB
- Above 112 dB

✘

Correct answer

- Above 85 dB

**Feedback**

*as above 85 dB, intensity of sound is permissible for very less time only.*



✘ 9. Read the information and then answer:

0/1

If "X" is the distance between the person and the wall and "Y" is the distance between wall and the person. Then which statement is correct, for no echo condition:

- X > Y
- $X \leq 17\text{m}, Y \leq 17\text{m}$  and  $X+Y \leq 34\text{m}$
- X = 17m & Y = 34m
- X + Y = 34m

✘

Correct answer

- $X \leq 17\text{m}, Y \leq 17\text{m}$  and  $X+Y \leq 34\text{m}$

#### Feedback

*Echo is produced when sound travels 34 m ( from the point of origin to reflecting surface and back the listener) within 0.1 s time gap.*

*Speed of sound = 340m/s*

*Distance travelled by sound in 0.1 s = 340m/s x 0.1s*

*= 34 m .The minimum distance travelled by the reflected sound wave for the distinctly listening the echo =  $34/2 = 17\text{ m}$*



✘ 10. Choose the best method to reduce echo in your classroom:

0/1

- wooden coating on the walls
- foam based coating on the walls
- glass based coating on the walls
- polymerised coating on the walls

✘

Correct answer

- foam based coating on the walls

**Feedback**

*cushion foam absorbs unwanted excess sound while other reflects sound.*

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