CBT CLASS IX, SCIENCE , DECEMBER-2024

General Instructions:

(i) Total number of questions are 10 questions;

(ii) **All questions are compulsory:**

1. When the vibrating object moves backwards, it creates a region of low pressure called ————————-

   a. Refraction
   b. Reflection
   c. Rarefaction
   d. Retardation

2. Mexican wave in a stadium is an example of

   a. Longitudinal wave
   b. Transverse wave
   c. Electromagnetic wave
   d. None of the options

3. What is the S.I. Unit of frequency?

   a. Hertz b. second c. meter d. newton.

4. The distance which compression or a rarefaction travels per unit of time gives————————-

   a. The density of sound wave
   b. Speed of sound
   c. Wavelength of sound
   d. Frequency of sound

5. Name the sound waves used by bat while flying in the dark.

(a) Ultra sonic (b) infrasonic (c) radio waves (d) None

6. Sound travels through which medium?

a. Solid
b. Liquid
c. Gas
d. All the above

7. When a body vibrates, it compresses the air surrounding and forms a high-density area known as ——————-.

a. Refraction
b. Reflection
c. Rarefaction
d. Compression

8. The phenomenon where a sound produced is heard again due to reflection is called ———

a. Sound bounce
b. Mirage
c. An echo
d. Interference

9. The number of compressions or rarefactions per unit time gives ———

a. Frequency
b. Time period
c. Amplitude
d. Pitch

10. Sound waves in air is an example of ———————

a. Longitudinal wave
b. Transverse wave
c. Electromagnetic wave
d. None of the options

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Answers

1. Answer: (c) Rarefaction

Explanation: Rarefaction is the opposite of compression. Rarefaction means the reduction of density of the object.

2. Answer: (b) Transverse wave

Explanation: Mexican wave, also known as the stadium wave, is an ideal example of a vertically polarised, transverse, travelling wave.

3. Answer: (a) hertz ,

Explanation: The concept of hertz was given by Scientist Hertz.

4. Answer: (b) Speed of sound

Explanation: Speed of sound measures the compression or a rarefaction that travels per unit of time.

5. Answer: (a) Ultra sonic

Explanation: The bat have special mechanism to hear ultra-sonic sound waves .

6. Answer: (d) All the above

Explanation: Sound has the ability to travel through solid, liquid and gas.

7. Answer: (d) Compression

Explanation: Compression is the opposite of rarefaction. Compression means increase in the density of the object.

8. Answer: (c) An echo

Explanation: To hear a distinct echo sound, the time interval between original and reflected sound must be at least 0.1s.

9. Answer: (d) Pitch

Explanation: The number of compressions or rarefactions per unit time defines pitch. The pitch is directly proportional to frequency.

10. Answer: (b) Longitudinal wave

Explanation: In longitudinal waves, particles travel parallel to the direction of wave motion employing successive compressions or elongations.

**********8