CLASS – 8 SOUND : REVISION

I. Fill in the blanks:

1. Time taken by an object to complete one oscillation is called ……
2. Loudness is determined by the ……. of vibration.
3. The unit of frequency is …….
4. Unwanted sound is called …… .

5. The speed of light is …….. m/s and of sound in air is ….. m/s.

6. The unit of loudness of sound is ……

7. The human voice box is called ….

8. The three tiny bones present inside human ear are called …..

II. State True or False: (Correct the false statements)

1. Sound cannot travel in vacuum.
2. The number of oscillations per second of a vibrating object is called its **time period**.
3. If the amplitude of vibration is **large**, sound **is feeble**.
4. For human ears, the audible range is 20 Hz to 20,000 Hz.
5. The **lower** the frequency of vibration, **the higher** is the pitch.
6. Unwanted or unpleasant sound is termed as music.
7. Noise pollution may cause partial hearing impairment.

III. MCQ

1. Sound can travel through:
(a) gases only
(b) solids only
(c) liquids only
(d) solids, liquids and gases

2. Sound waves travel fastest in:
(a) air
(b) metals
(c) vacuum
(d) liquids

3. Sounds having frequency less than 20 Hz are called:
(a) supersonic
(b) ultrasonic
(c) sonar
(d) infrasonic

IV, Identify the part which vibrates to produce sound in the following instruments:
(a) Dholak
(b) Sitar
(c) Flute

V. Lightning and thunder take place in the sky at the same time and at the same distance from us. Lightning is seen earlier and thunder is heard later. Can you explain why?

VI. Define:

(i) **Amplitude of vibrations** – The maximum displacement of a vibrating object from its mean position is called the amplitude of vibration.
(ii) **Time-period of vibrations** – The time taken by a vibrating body to complete one vibration is called its time period.
(iii) **Frequency of vibrations**- The number of vibrations made in one second is called the frequency of vibration.

VII. A ship sends out ultrasound that returns from the seabed and is detected after 3.42 s. If the speed of ultrasound through sea water is 1531 m/s, what is the distance of the seabed from the ship?

VIII. Expand SONAR. What is this technique used for?

SOUND NAVIGATION AND RANGING

Used to determine the depth of the sea and to locate underwater hills, valleys, submarines, icebergs, sunken ships etc

IX. What are the applications of ultrasound?

Ultrasound scanner is an instrument that uses ultrasonic waves for getting images of internal organs of the body.

(i) Ultrasonography is used for examination of foetus during pregnancy to detect any abnormalities
(ii) Eco-cardiography (ECG) is used to detect abnormal heart beats, blockage in the coronary artery, etc
(iii) To detect the cracks in machines, dams, bridges, buildings etc
(iv) Used in navigation

X. Diagram of human ear and label the parts.

XI. Compare

Infrasonic	Sonic	Ultrasonic
It has frequency less than the audible frequency range.	It has the frequency equal to the audible frequency range.	It has the frequency greater than the audible frequency range.
Less than 20 Hz	Between 20 Hz to 20000 Hz	More than 20000 Hz
Sources: Volcanoes, Earthquakes, etc.	Sources: Humans, Animal roars, etc.	Sources: Bats, SONAR, etc.

XII. What is noise pollution? Mention any two problems due to noise pollution. How can we reduce noise pollution?

Ans: The presence of loud, unwanted and disturbing sounds in our environment is called noise pollution.

Affects of noise pollution: (i) Can cause partial hearing impairment.

(ii) Can cause headache, irritation, difficulty in concentrating

(iii) Can cause deafness

(iv) Can cause mental stress

Mesures to control noise pollution:

(i) Planting trees near factories, roads, buildings etc will act as sound breakers.

(ii) Use of insulating materials like foam, that can absorb sounds waves.

(iii) The horns of the motor vehicles should not be blown unnecessarily.

XIV. What are the properties of sound?

XV. Why do the wind chimes have rods of different lengths?

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