CBSE

SOUNDS WS 4

Class 09 - Science

Section A

1. The audible range of the human ear is: **[1]**

   a) 2 Hz - 2000 Hz
   b) 2 Hz- 20 kHz
   c) 20 Hz - 20 MHz
   d) 20 Hz - 20,000 Hz

2. Earthquake produces which kind of sound before the main shock wave begins **[1]**

   a) audible sound
   b) ultrasound
   c) infrasound
   d) as a supersonic wave

3. _____ have frequencies more than 20,000 hertz. **[1]**

   a) Different
   b) Ultrasonics
   c) Sound
   d) Infrasonics

4. The penetrating power of ultrasonic waves and other audible sounds are given as f_1 and f_2 respectively. Then **[1]**

   a) $f_1 > f_2$
   b) $f_1 = 2f_2$
   c) $f_1 < f_2$
   d) $f_1 = f_2$

5. Infrasound can be heard by **[1]**

   a) human beings
   b) rats
   c) rhinoceros
   d) bat

6. Infrasonic f_i, Audible f_a and ultrasonic f_u sounds are related as **[1]**

   a) $f_a < f_u < f_i$
   b) $f_i < f_a < f_u$
   c) $f_i > f_a > f_u$
   d) $f_a < f_i < f_u$

7. **Assertion (A):** The speed of sound in solids is maximum though their density is large. **[1]**
   Reason (R): The coefficient of elasticity of solid is large.

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

8. Match the following with the correct response. **[1]**

(1) Audible range	(A) 20 Hz to 20,000 Hz
(2) Infrasonic	(B) More than 20,000 Hz
(3) Ultrasonic	(C) Less than 20 Hz

(4) Supersonic	(D) Speed greater than sound in air

a) 1-D, 2-A, 3-C, 4-B

b) 1-C, 2-B, 3-D, 4-A

c) 1-B, 2-D, 3-A, 4-C

d) 1-A, 2-C, 3-B, 4-D

9. Match the following with correct response. **[1]**

(1) Audible range	(A) Less than 20 Hz
(2) Infrasonic	(B) Speed greater than sound in air
(3) Ultrasonic	(C) More than 20,000 Hz
(4) Supersonic	(D) 20 Hz to 20,000 Hz

a) 1-A, 2-C, 3-B, 4-D

b) 1-D, 2-A, 3-C, 4-B

c) 1-B, 2-D, 3-A, 4-C

d) 1-C, 2-B, 3-D, 4-A

10. Dogs are capable of receiving sound upto _____ kHz. **[1]**

a) 75

b) 100

c) 45

d) 25

11. What is the range of frequencies associated with **[1]**

a. Infrasound?

b. Ultrasound?

12. What kind of waves are produced in an earthquake before the main shock wave begins? **[1]**

13. What is the audible range of the average human ear? **[1]**

Section B

14. Why do we hear the sound produced by the humming bees while the sound of vibrations of pendulum is not heard? **[2]**