

Sound**DPP - 1**

1. What is transferred in wave motion?

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|--------------|------------------|
| (A) Energy | (C) Mass |
| (B) Momentum | (D) Both A and B |
2. The density of medium through which longitudinal wave propagates is minimum in a region which is called a:

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|-----------------|-----------------|
| (A) Crest | (C) Trough |
| (B) Compression | (D) Rarefaction |
3. Mechanical waves can travel:

| | |
|--------------------------------------|---------------------------------------|
| (A) In vacuum as well as in a medium | (B) In vacuum but not in a medium |
| (C) In a medium but not in vacuum | (D) Neither in a medium nor in vacuum |
4. Non-mechanical waves can travel:

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|--------------------------------------|---------------------------------------|
| (A) In vacuum as well as in a medium | (B) In vacuum but not in a medium |
| (C) In a medium but not in vacuum | (D) Neither in a medium nor in vacuum |
5. In a slinky:

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| (A) Both transverse pulse as well as longitudinal pulse can be generated : | (B) Both types of pulse cannot be generated |
| (C) Only a transverse pulse can be generated | (D) Only a longitudinal pulse can be generated |
6. Transverse mechanical wave cannot travel in:

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|------------------|----------------------|
| (A) Iron rod | (C) Water |
| (B) Hydrogen gas | (D) Stretched string |
7. Which is true for light waves?

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| (A) They are electromagnetic waves | (C) They have extremely short wavelength |
| (B) They are transverse waves | (D) All of these |
8. The speed of electromagnetic waves in air is:

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|--------------------------|--------------------------|
| (A) 3×10^5 km/s | (C) 3×10^6 km/s |
| (B) 3×10^7 km/s | (D) 3×10^8 km/s |
9. The waves produced by a motor boat sailing in water are:

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|------------------|---------------------------------|
| (A) Transverse | (C) Longitudinal and transverse |
| (B) Longitudinal | (D) Stationary |
10. The frequency of sound waves in water is:

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|---|-----------------------------------|
| (A) Same as that of frequency of source | (B) Less than frequency of source |
| (C) More than frequency of source | (D) Can't say |
11. Explain why, transverse mechanical waves cannot be propagated in liquids and gases.
12. On what two basis waves can be classified? Name them.
13. Why flash of lighting from clouds is seen much earlier than the sound of thunder, although both occur simultaneously?
14. What is the effect of temperature on speed of sound? Discuss.

Sound**DPP - 2**

1. Which of the following properties of wave, the one that is independent of the others is its :
(A) Velocity (C) Wavelength
(B) Amplitude (D) Frequency
2. When a sound wave goes from air into water, the quantity that remains unchanged is its :
(A) Velocity (C) Frequency
(B) Amplitude (D) Wavelength
3. Distance of crest from mean position is called:
(A) Amplitude (C) Displacement
(B) Frequency (D) Wavelength
4. The speed of sound in a certain medium is 960 m/s. If 3600 waves pass over a certain point in 1 minute, the wavelength is:
(A) 2 m (B) 4 m (C) 8 m (D) 16 m
5. The speed of sound waves having a frequency of 256 Hz compared with the speed of sound waves having a frequency of 512 Hz in the same medium is :
(A) Half (C) Twice
(B) Same (D) Four times
6. Sound takes sometime to travel from one place to another. It will be maximum:
(A) At night (C) During summer
(B) During winter (D) Nothing can be said
7. Velocity sound is maximum in :
(A) Iron (C) Water
(B) Mercury (D) Air
8. Which of the following statements is wrong?
(A) Change in air temperature have no effect on the speed of sound
(B) Change in air pressure have no effect on the speed of sound
(C) The speed of sound in water is higher than in air
(D) The speed of light in water is lesser than in air
9. The velocity of sound in any gas depends upon :
(A) Wavelength of sound only
(B) Amplitude and frequency of sound
(C) Density and elasticity of gas
(D) Intensity of sound waves only
10. Which characteristic of the sound helps you to identify your friend by his voice while sitting with others in a dark room?
(A) Pitch (C) Timbre
(B) Amplitude (D) Wavelength
11. Define amplitude of a wave.
12. Define frequency of a wave.
13. Define wavelength of a wave.
14. Define time period of a wave.
15. Define timbre.

Sound**DPP - 3**

1. The waves which propagate in metals are:
(A) Longitudinal (C) A and B both
(B) Transverse (D) Neither A nor B
2. Loudness of sound depends on its:
(A) Frequency (C) Amplitude
(B) Time period (D) Wavelength
3. The frequency of a source of sound is 100 Hz. How many times does it vibrate in a minute:
(A) 100 (C) 600
(B) 1000 (D) 6000
4. Sonar is based on the principle of:
(A) Echo (C) Resonance
(B) Reverberation (D) Any one of the above
5. Echo is produced due to :
(A) Reflection of sound (C) Resonance
(B) Refraction of sound (D) None of these
6. The persistence of sound in a closed enclosure, due to continuous reflection at the walls, even after the source has stopped producing sound is known as:
(A) The persistence of hearing (C) A reverberation
(B) An echo (D) The water sounds
7. In the inner ear the fluid which converts pressure variations into electrical signals is inside:
(A) Hammer (C) Stirrup
(B) Anvil (D) Cochlea
8. Which among the following is based on reflection of sound?
(A) Megaphone (C) Stethoscope
(B) Sound board (D) All of these
9. The minimum distance between the source of sound and the obstacle for an echo to take place is :
(A) 17.2 m (C) 17 cm
(B) 172 m (D) 34.4 m
10. If ultrasonic, infrasonic and audio waves travel through a medium with speed v_1 , v_2 and v_3 respectively then:
(A) $v_1 = v_2 = v_3$ (C) $v_1 < v_3 < v_2$
(B) $v_1 > v_3 > v_2$ (D) $v_3 \geq v_1$ and $v_1 \approx v_3$
11. Name the three bones present in the middle ear.
12. What is persistence of hearing?
13. Give two laws of reflection for sound.
14. Explain SONAR?
15. Velocity of sound at a particular place is 400 m/s, then calculate the minimum distance between the source of sound and the obstacle for an echo to take place.