

Class 9 chapter Sound CBSE Solved Test paper-3

1. Q. How does the ear drum of human ear vibrate ?

When a compression of the medium reaches the eardrum the pressure on the outside of the membrane increases and forces the eardrum inward. Similarly the eardrum moves outward when a rarefaction reaches it. In this way the eardrum vibrates.

2. Q. What is the role of hammer bone, anvil bone, stirrup bone and cochlea of human ear in hearing a sound

Ans: The vibrations due to the ear drum is amplified several times by three bones in the middle ear. The pressure variations in the inner ear turned in to electrical signals by the cochlea.

3. Q. What kind of waves can be produced on a slinky?

Ans: Under different conditions, a slinky can produce both transverse and longitudinal waves on slinky.

In a single disturbance the velocity of a pulse in a string will be constant in a string

4. Q. What is the velocity of pulse for slinky when it takes 5 sec to travel from point A to B and back to A . Distance between A to B is 5 m

Ans : Wave length = $d = 5 + 5 = 10\text{m}$ and $t = 5 \text{ sec}$.

$$\Rightarrow V = d/t = 10\text{m}/ 2 \text{ sec} = 2\text{m/s}$$

5. Q. Two slinky A and B of the same length are made up of two different materials. The times taken by 20 pulses to travel in both of them are 70 s and 90 s respectively. It concludes that:

- (a) The pulse travels faster in B than in A. (b) The pulse travels faster in A than in B.
(c) Pulse travels slower in B than A. (d) Pulse travels with the same speed in A and B

Ans: (b) The pulse travels faster in A than in B.

6. Q. A strong transverse pulse is created in one end of a string. It completes 10 journeys along its length; before fading out. The initial reading of the stop clock used in the experiment was 25s and the final reading was 75s. If the length of the string for one journey is L meter, the speed of the pulse through the string?

Ans: The time taken for one journey is $(75 - 25)/10$ second.

The length of the string is L meter

So, the speed of the pulse, through the string, is: $L/5$