**Aarambh classes**

**Class X(CBSE )**

**Physics test**

**Sound**

**Time : 1 hour M.Marks : 30**

1. The human ear can detect sound in the frequency range 20Hz to 20,000Hz .If speed of sound is 330 m/s ,find its wavelength ,corresponding to the audible range of frequencies .
2. A sound produced on the surface of a lake takes 4.5 s to reach a boatman .How much time will it take to reach a diver inside water at the same distance if speed of sound in water is 4.5 times the speed of sound in air ?
3. A boy stands 60 m in front of a tall wall and claps .The boy continues to clap every time an echo is heard .Another boy finds that the time taken between the first and fifty first clap is 18 s.Calculate the speed of sound .
4. A man standing in front of a vertical cliff fires a gun.He hears the echo after 3 s .On moving closer to the cliff by 82.5 m,he fires again and hears the echo after 2.5 s .Find (i)the distance of cliff from the initial position of man, and (b)the speed of sound .
5. State the use of echo by a bat,dolphin and fishermen.
6. A wire of length 80 cm under some tension produces sound of frequency 256 Hz.What length of wire will produce sound of frequency 1024 Hz under the same tension.
7. A vibrating tuning fork is placed over the mouth of a burette filled with water .The tap is opened and the water level gradually falls .
8. what do you observe ?Name the phenomena .When does it happen ?
9. If the water level in the burette falls further ,will you notice the same observation again as in part (a).
10. What are the damped vibrations ?How do they differ from free vibrations ?Give one example of each .
11. Explain why strings of different thickness are provided on a stringed instrument ?
12. When a troop crosses a suspension bridge ,the soldiers are asked to break their steps .Why ?