XI Physics Worksheet

Time: 30 min   **Chapter#15: Waves-02**   **Full Marks: 20**

Instructions:
1. All questions are compulsory.
2. Please give the explanation for the answer where applicable.

Q1 - What are pressure waves?

(1 Mark)

Q2 - Is the phenomena of beats observable in case of two light waves of nearly equal frequencies?

(1 Mark)

Q3 - Will there be a doppler effect if source and listener both move in the same direction with the same speed?

(1 Mark)

Q4 - At what temperature, velocity of sound at 27^0C doubles?

(2 Marks)

Q5 - A string of mass 2 kg is under a tension of 200 N. The length of the stretched string is 10 m. If the transverse jerk is struck at one end of the string, how long does the disturbance take to reach the other end?

(2 Marks)

Q6 - An open organ pipe has fundamental frequency of 300 Hz. Find the length of the pipe. Speed of sound is 330m/sec.

(2 Marks)

Q7 - The extension in the string obeying Hook's law is x. The speed of sound in string is v. If the extension in the string is increased to 1.5x then find the speed of sound.

(3 Marks)

Q8 - Two tuning forks A and B set in vibration gives 4 beats per second. If a prong of the fork A is filed, the beats per second is reduced to 2. Determine the frequency of A if that of B is 250 Hz.

(3 Marks)

Q9 - An observer moves towards a stationary source with a velocity 1/5 of the velocity of sound. What is the percentage increase in the apparent frequency?

(5 Marks)