

Worksheet: Waves

West Bengal State Board · Class 11 · Physics · 5 questions · 13 marks

Name: _____

Date: _____

Score: _____ / 13

Q1. Two tuning forks of 256 Hz and 260 Hz sound together. Find the beat frequency. *[2 marks]*

Q2. A 1 m string ($\mu = 0.01$ kg/m, $T = 100$ N) is fixed at both ends. Find the fundamental frequency. *[3 marks]*

Q3. A source moving at 30 m/s emits 500 Hz toward a stationary observer ($v = 340$ m/s). Find the apparent frequency. *[3 marks]*

Q4. Find the third harmonic of a 50 cm open organ pipe ($v = 340$ m/s). *[2 marks]*

Q5. Waves $y_1 = 0.05 \sin(200t - 5x)$ and $y_2 = 0.05 \sin(200t + 5x)$ superpose. Find the standing wave and node positions. *[3 marks]*
