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NEET WAVES — SPEED OF A TRAVELLING WAVE (STRING, SOUND) — PYQS

Max. Marks: 16 **Questions:** 4

Section A (MCQ) — 4 questions

Q.1 If the initial tension on a stretched string is doubled, then the ratio of the initial and final speeds of a transverse wave along the string is

[NEET (UG) 2022]

(1) 1:1 (2) $\sqrt{2}:1$ (3) $1:\sqrt{2}$ (4) 1:2

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Q.2 A uniform rope of length L and mass m_1 hangs vertically from a rigid support. A block of mass m_2 is attached to the free end of the rope. A transverse pulse of wavelength λ_1 is produced at the lower end of the rope. The wavelength of the pulse when it reaches the top of the rope is λ_2. The ratio λ_2/λ_1 is

[NEET 2016 (Phase 1)]

(1) $\sqrt{\frac{m_2}{m_1}}$ (2) $\sqrt{\frac{m_1+m_2}{m_1}}$

(3) $\sqrt{\frac{m_1}{m_2}}$ (4) $\sqrt{\frac{m_1+m_2}{m_2}}$

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Q.3 Sound waves travel at 350 m/s through warm air and at 3500 m/s through brass. The wavelength of a 700 Hz acoustic wave as it enters brass from warm air [AIPMT 2011 (Prelims)]

(1) decrease by a factor 10

(2) increase by a factor 20

(3) increase by a factor 10

(4) decrease by a factor 20

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Q.4 A point source emits sound equally in all directions in a non-absorbing medium. Two points P and Q are at distances of 2 m and 3 m respectively from the source. The ratio of the intensities of the waves at P and Q is [AIPMT 2005]

(1) 3 : 2 (2) 2 : 3 (3) 9 : 4 (4) 4 : 9

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ANSWER KEY

Ques.	1	2	3	4							
Ans.	3	4	3	3							