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NEET OSCILLATIONS — SIMPLE PENDULUM — PYQS

Max. Marks: 20 **Questions:** 5

Section A (MCQ) — 5 questions

Q.1 Savitha, a XI standard student, while conducting an experiment to determine the effective length of a simple pendulum L, notes down the data of time taken to complete 30 oscillations as 60 s and hence calculates the length of the simple pendulum as : (Take $\pi^2 = 9.8$, and $g = 9.8\ m/s^2$) [NEET (UG) 2026]

(1) 0.75 m (2) 1 m (3) 1.5 m (4) 2 m

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Q.2 If the mass of the bob in a simple pendulum is increased to thrice its original mass and its length is made half its original length, then the new time period of oscillation is $\frac{x}{2}$ times its original time period. Then the value of x is: [NEET (UG) 2024]

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

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Q.3 Two pendulums of length 121 cm and 100 cm start vibrating in phase. At some instant, the two are at their mean position in the same phase. The minimum number of vibrations of the shorter pendulum after which the two are again in phase at the mean position is : [NEET (UG) 2022]

(1) 11 (2) 9 (3) 10 (4) 8

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Q.4 Two masses M_A and M_B are hung from two strings of length l_A and l_B respectively. They are executing SHM with frequency relation $f_A = 2f_B$, then relation [AIPMT 2000]

(1) $l_A = \frac{l_B}{4}$, does not depend on mass

(2) $l_A = 4l_B$, does not depend on mass

(3) $l_A = 2l_B$ and $M_A = 2M_B$

(4) $l_A = \frac{l_B}{2}$ and $M_A = \frac{M_B}{2}$

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Q.5 The bob of simple pendulum having length l, is displaced from mean position to an angular position θ with respect to vertical. If it is released, then velocity of bob at equilibrium position [AIPMT 2000]

(1) $\sqrt{2gl(1-\cos\theta)}$ (2) $\sqrt{2gl(1+\cos\theta)}$

(3) $\sqrt{2gl\cos\theta}$ (4) $\sqrt{2gl}$

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ANSWER KEY

Ques.	1	2	3	4	5						
Ans.	2	2	1	1	1						