Yakeen NEET 2.0 2026

Physics By Saleem Sir

Motion in a Straight Line

DPP: 11

Q1 A body is released from the top of a tower of height h. It takes $t\ sec$ to reach the ground. Where will be the ball after time $t/2$ sec
(A) At $h/2$ from the ground
(B) At $h/4$ from the ground
(C) Depends upon mass and volume of the body
(D) At $3h/4$ from the ground

Q2 The velocity of a body depends on time according to the equation $v = 20 + 0.1\text{t}^2$. The body has
(A) Uniform acceleration
(B) Uniform retardation
(C) Non-uniform acceleration
(D) Zero acceleration

Q3 A body is projected vertically upward with speed $40\ \text{m/s}$. The distance travelled by body in the last second of upward journey is [take $g = 9.8\ \text{m/s}^2$ and neglect effect of air resistance]
(A) $4.9\ \text{m}$
(B) $9.8\ \text{m}$
(C) $12.4\ \text{m}$
(D) $19.6\ \text{m}$

Q4 A particle is thrown with any velocity vertically upward, the distance travelled by the particle in first second of its decent is
(A) g
(B) $\frac{g}{2}$
(C) $\frac{g}{4}$
(D) Cannot be calculated

Q5 When a particle is thrown vertically upwards, its velocity at one third of its maximum height is $10\sqrt{2}\ \text{m/s}$. The maximum height attained by it is

(A) $20\sqrt{2}\ \text{m}$
(B) $30m$
(C) $15m$
(D) $12.8\ \text{m}$

Q6 A body starts to fall freely under gravity. The distances covered by it in first, second and third second are in ratio:
(A) $1 : 3 : 5$ (B) $1 : 2 : 3$
(C) $1 : 4 : 9$ (D) $1 : 5 : 6$

Q7 Two balls are dropped from different heights at different instants. Second ball is dropped 2 seconds after the first ball. If both balls reach the ground simultaneously after 5 seconds of dropping the first ball, then the difference between the initial heights of the two balls will be $(\text{g} = 9.8\ \text{m/s}^2)$
(A) $58.8\ \text{m}$
(B) $78.4\ \text{m}$
(C) $98.0\ \text{m}$
(D) $117.6\ \text{m}$

Q8 A particle is dropped from a certain height. The time taken by it to fall through successive distances of $1\,\text{km}$ each will be:
(A) All equal, being equal to $\sqrt{\frac{2}{g}}$ second.
(B) In the ratio of the square roots of the integers $1 : \sqrt{2} : \sqrt{3}$
(C) In the ratio of the difference in the square roots of the integers, i.e., $\sqrt{1}, (\sqrt{2} - \sqrt{1}), (\sqrt{3} - \sqrt{2}), (\sqrt{4} - \sqrt{3})\ldots\ldots$
(D) In the ratio of the reciprocals of the square roots of the integers, i.e., $\frac{1}{\sqrt{1}}, \frac{1}{\sqrt{2}}, \frac{1}{\sqrt{3}}, \cdots$

Q9 A particle is thrown vertically upward. Its velocity at half of the maximum height is $10\ \text{m/s}$. The maximum height attained by it is

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(A) 8 m

(B) 20 m

(C) 10 m

(D) 16 m

Q10 A ball is thrown upward with a velocity of 100 m/s. It will reach the ground after:

(A) 10 s

(B) 20 s

(C) 5 s

(D) 40 s

Q11 If a freely falling body travels in the last second, a distance equal to the distance travelled by it in the first three second, the time of the travel is:

(A) 6 sec.   (B) 4 sec.

(C) 3 sec.   (D) 5 sec.

Answer Key

Q1	(D)		Q7	(B)
Q2	(C)		Q8	(C)
Q3	(A)		Q9	(C)
Q4	(B)		Q10	(B)
Q5	(C)		Q11	(D)
Q6	(A)			

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