



Video Solution on Website:-

<https://physicsaholics.com/home/courseDetails/41>

Video Solution on YouTube:-

<https://youtu.be/2AICI1cDicI>

Written Solution on Website:-

<https://physicsaholics.com/note/notesDetails/85>

- Q 1. 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
- Q 2. P, Q and R are three balloons ascending with velocities U , $4U$ and $8U$ respectively. If stones of the same mass be dropped from each, when they are at the same height, then:
(a) They reach the ground at the same time
(b) Stone from P reaches the ground first
(c) Stone from Q reaches the ground first
(d) Stone from R reaches the ground first
- Q 3. A body, thrown vertically upwards with an initial velocity u , reaches maximum height in 6 seconds. The ratio of the distance travelled by body in the first second and the eleventh second is:
(a) 1:9 (b) 11:9 (c) 1:2 (d) 9:11
- Q 4. A stone falls from a balloon that is descending at a uniform rate of 12 m/s. The displacement of the stone from the point of release after 10 sec is: ($g = 9.8 \text{ m/s}^2$)
(a) 490 m (b) 510 m (c) 610 m (d) 725 m
- Q 5. A stone thrown upward with a speed ' u ' from the top of the tower reaches the ground with a velocity ' $3u$ '. The height of the tower is :-
(a) $\frac{3u^2}{g}$ (b) $\frac{4u^2}{g}$ (c) $\frac{6u^2}{g}$ (d) $\frac{9u^2}{g}$
- Q 6. A ball is dropped from a tower. In the last second of its motion it travels a distance of 15 m. Find the height of the tower. [take $g = 10 \text{ m/s}^2$]
(a) 10 m (b) 20 m (c) 30 m (d) 40 m
- Q 7. A, B, C and D are points in a vertical line such that $AB=BC=CD$. If a body falls from rest from A, then the times of descend through AB, BC and CD are in the ratio:
(a) $1:2:\sqrt{3}$ (b) $\sqrt{2}:\sqrt{3}:1$
(c) $\sqrt{3}:1:\sqrt{2}$ (d) $1:(\sqrt{2}-1):(\sqrt{3}-\sqrt{2})$
- Q 8. Two stones of different masses are dropped simultaneously from the top of a building
(a) Smaller stone hit the ground earlier
(b) Larger stone hit the ground earlier



- (c) Both stones reach the ground simultaneously
(d) Which of the stones reach the ground earlier depends on the composition of the stone
- Q 9. If a ball fallen freely from 'h' height reaches in time 't' at ground, then what will be the time when it reaches at height h/2?
(a) $\frac{t}{2}$ (b) $\frac{t}{\sqrt{2}}$ (c) $\sqrt{2}t$ (d) $\frac{t}{\sqrt{2}-1}$
- Q 10. Two particles A and B having different masses are projected from a tower with same speed. A is projected vertically upward and B vertically downward. On reaching the ground:
(a) Velocity of A is greater than that of B
(b) Velocity of B is greater than that of A
(c) Both A and B attain the same velocity
(d) The particle with the larger mass attains higher velocity
- Q 11. A man in a balloon rising vertically with an acceleration of 4.9 m/s^2 releases a ball 2 sec after the balloon is let go from the ground. The greatest height above the ground reached by the ball is: ($g = 9.8 \text{ m/s}^2$)
(a) 14.7 m (b) 19.6 m (c) 9.8 m (d) 24.5 m
- Q 12. A stone is dropped from a building and 2 seconds later another stone is dropped. How far apart are these two stones by the time the first one reaches a speed of 30 m/s : ($g = 10 \text{ m/s}^2$)
(a) 80 m (b) 100 m (c) 60 m (d) 40 m

Answer Key

Q.1) a	Q.2) b	Q.3) b	Q.4) c	Q.5) b
Q.6) b	Q.7) d	Q.8) c	Q.9) b	Q.10) c
Q.11) a	Q.12) d			