## 3 Lecture - PHY101

## Important Mcqs

A car moves in a circular path of radius 100 meters with a constant speed of $10 \mathrm{~m} / \mathrm{s}$. What is the magnitude of the centripetal acceleration of the car?
A. $1 \mathrm{~m} / \mathrm{s}^{2}$
B. $10 \mathrm{~m} / \mathrm{s}^{2}$
C. $100 \mathrm{~m} / \mathrm{s}^{2}$
D. $1000 \mathrm{~m} / \mathrm{s}^{2}$

Answer: B. $10 \mathrm{~m} / \mathrm{s}^{2}$

A ball is thrown horizontally from the top of a cliff with a speed of $20 \mathrm{~m} / \mathrm{s}$. If the cliff is 50 meters high, how far from the base of the cliff will the ball hit the ground?
A. 100 m
B. 150 m
C. 200 m
D. 250 m

Answer: C. 200 m

A person is standing at the edge of a cliff and throws a ball with a velocity of $\mathbf{3 0} \mathbf{~ m} / \mathrm{s}$ at an angle of 60 degrees with the horizontal. What is the horizontal component of the velocity of the ball?
A. $15 \mathrm{~m} / \mathrm{s}$
B. $25 \mathrm{~m} / \mathrm{s}$
C. $30 \mathrm{~m} / \mathrm{s}$
D. $35 \mathrm{~m} / \mathrm{s}$

Answer: A. 15 m/s

A car is traveling at a speed of $20 \mathrm{~m} / \mathrm{s}$ and comes to a complete stop in 5 seconds. What is the magnitude of its acceleration?
A. $4 \mathrm{~m} / \mathrm{s}^{2}$
B. $5 \mathrm{~m} / \mathrm{s}^{2}$
C. $10 \mathrm{~m} / \mathrm{s}^{2}$
D. $20 \mathrm{~m} / \mathrm{s}^{2}$

Answer: C. $10 \mathrm{~m} / \mathrm{s}^{2}$

A ball is thrown vertically upwards with a speed of $20 \mathrm{~m} / \mathrm{s}$. What is the maximum height reached by the ball?
A. 20 m
B. 40 m
C. 80 m
D. 160 m

Answer: B. 40 m

A train is moving with a velocity of $40 \mathrm{~m} / \mathrm{s}$. If the train accelerates uniformly at $\mathbf{4} \mathbf{~ m} / \mathrm{s}^{2}$ for 10 seconds, what is the final velocity of the train?
A. $80 \mathrm{~m} / \mathrm{s}$
B. $60 \mathrm{~m} / \mathrm{s}$
C. $50 \mathrm{~m} / \mathrm{s}$
D. $44 \mathrm{~m} / \mathrm{s}$

Answer: B. $60 \mathrm{~m} / \mathrm{s}$

A car starts from rest and accelerates uniformly at $5 \mathrm{~m} / \mathrm{s}^{2}$ for 10 seconds. What is the distance traveled by car?
A. 125 m
B. 250 m
C. 500 m
D. 1000 m

Answer: C. 500 m

A stone is thrown from the top of a building with an initial velocity of $\mathbf{2 0} \mathbf{~ m} / \mathrm{s}$ at an angle of $\mathbf{3 0}$ degrees with the horizontal. What is the range of the stone?
A. 20 m
B. 40 m
C. 60 m
D. 80 m

Answer: C. 60 m

A rocket is launched vertically upwards with an initial velocity of $100 \mathrm{~m} / \mathrm{s}$. What is the maximum height reached by rocket?
A. 5000 m
B. 10000 m
C. 15000 m
D. 20000 m

Answer: D. 20000 m

A ball is thrown horizontally from the top of a building with a velocity of $10 \mathrm{~m} / \mathrm{s}$. If the building is 100 meters high, how far from the base of the building will the ball hit the ground?
A. 10 m
B. 20 m
C. 50 m
D. 100 m

Answer: C. 50 m

