

# 3 Lecture - PHY101

## Important Mcqs

**A car moves in a circular path of radius 100 meters with a constant speed of 10 m/s. What is the magnitude of the centripetal acceleration of the car?**

- A. 1 m/s<sup>2</sup>
- B. 10 m/s<sup>2</sup>
- C. 100 m/s<sup>2</sup>
- D. 1000 m/s<sup>2</sup>

**Answer: B. 10 m/s<sup>2</sup>**

**A ball is thrown horizontally from the top of a cliff with a speed of 20 m/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 30 m/s at an angle of 60 degrees with the horizontal. What is the horizontal component of the velocity of the ball?**

- A. 15 m/s
- B. 25 m/s
- C. 30 m/s
- D. 35 m/s

**Answer: A. 15 m/s**

**A car is traveling at a speed of 20 m/s and comes to a complete stop in 5 seconds. What is the magnitude of its acceleration?**

- A.  $4 \text{ m/s}^2$
- B.  $5 \text{ m/s}^2$
- C.  $10 \text{ m/s}^2$
- D.  $20 \text{ m/s}^2$

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

**A ball is thrown vertically upwards with a speed of  $20 \text{ m/s}$ . What is the maximum height reached by the ball?**

- A.  $20 \text{ m}$
- B.  $40 \text{ m}$
- C.  $80 \text{ m}$
- D.  $160 \text{ m}$

Answer: B.  $40 \text{ m}$

**A train is moving with a velocity of  $40 \text{ m/s}$ . If the train accelerates uniformly at  $4 \text{ m/s}^2$  for  $10$  seconds, what is the final velocity of the train?**

- A.  $80 \text{ m/s}$
- B.  $60 \text{ m/s}$
- C.  $50 \text{ m/s}$
- D.  $44 \text{ m/s}$

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

**A car starts from rest and accelerates uniformly at  $5 \text{ m/s}^2$  for  $10$  seconds. What is the distance traveled by car?**

- A.  $125 \text{ m}$
- B.  $250 \text{ m}$
- C.  $500 \text{ m}$
- D.  $1000 \text{ m}$

Answer: C.  $500 \text{ m}$

**A stone is thrown from the top of a building with an initial velocity of 20 m/s at an angle of 30 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 m/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 m/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**