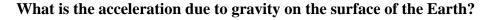
# 22 Lecture - PHY101

## **Important Mcqs**



- A) 9.8 m/s<sup>2</sup>
- B) 1.6 m/s<sup>2</sup>
- C) 6.0 m/s^2
- D) 5.5 m/s<sup>2</sup>

Answer: A) 9.8 m/s^2

### What is the formula for calculating the gravitational force between two objects?

- A) F = ma
- B) F = G(m1 + m2)
- C)  $F = Gm1m2/r^2$
- D) F = mgh

Answer: C)  $F = Gm1m2/r^2$ 

#### Who discovered the law of gravitation?

- A) Albert Einstein
- B) Galileo Galilei
- C) Isaac Newton
- D) Johannes Kepler

Answer: C) Isaac Newton

### What is escape velocity?

- A) The velocity at which an object falls to Earth
- B) The velocity at which an object escapes the gravitational pull of a planet or star

- C) The velocity at which an object reaches terminal velocity
- D) The velocity at which an object moves in a circular orbit

Answer: B) The velocity at which an object escapes the gravitational pull of a planet or star

#### What is the Schwarzschild radius?

- A) The radius of the Earth's orbit around the sun
- B) The radius of a black hole's event horizon
- C) The radius of a planet's atmosphere
- D) The radius of a star's core

Answer: B) The radius of a black hole's event horizon

#### Which of the following is not a fundamental force of nature?

- A) Gravitational force
- B) Electromagnetic force
- C) Strong nuclear force
- D) Weak nuclear force

Answer: E) None of the above

#### Which planet in our solar system has the strongest gravitational pull?

- A) Jupiter
- B) Saturn
- C) Earth
- D) Mars

Answer: A) Jupiter

#### How does the mass of an object affect its gravitational force?

- A) The greater the mass, the greater the gravitational force
- B) The smaller the mass, the greater the gravitational force
- C) Mass has no effect on gravitational force

D) The effect of mass on gravitational force depends on the distance between objects

Answer: A) The greater the mass, the greater the gravitational force

## What is the difference between weight and mass?

- A) Weight is a measure of an object's mass, while mass is a measure of the force of gravity on an object
- B) Weight is a measure of the force of gravity on an object, while mass is a measure of the amount of matter in an object
- C) Weight and mass are two different ways of measuring the same thing
- D) Weight and mass are not related to each other

Answer: B) Weight is a measure of the force of gravity on an object, while mass is a measure of the amount of matter in an object

#### What is the role of dark matter in the study of gravitation?

- A) Dark matter has no effect on gravitation
- B) Dark matter is responsible for the gravitational pull of galaxies
- C) Dark matter is a force that opposes gravity
- D) Dark matter is a theoretical construct that has no relation to gravitation

Answer: B) Dark matter is responsible for the gravitational pull of galaxies