22 Lecture - PHY101

Important Mcqs

What is the acceleration due to gravity on the surface of the Earth?

A) 9.8 m/s^2

B) 1.6 m/s^2

C) 6.0 m/s^2

D) 5.5 m/s^2

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