Chapters/ Sections will be Covered

Book: Fundamentals of Physics by David Halliday, Jearl Walker, and Robert Resnick

Chapter Title: Oscillations

Sections: Escape Speed,
Satellites: Orbits and Energy

Chapter Title: Oscillations

Sections: Simple Harmonic Motion

Sample Quiz Question

What is the initial velocity for an object ignoring the gravitational pull for its upward motion?
a) Projectile's terminal velocity
b) Velocity at maximum height
c) Escape velocity
d) Projectile's returning velocity at ground

To escape the gravitational pull of an object, what is not the major factor for that object to move?
a) gravitational constant for an astronomical body
b) Length parameter of an astronomical body
c) Mass of an astronomical body
d) Rotation of an astronomical body

Sample Quiz Question

Which of the following statements is not true?
a) A satellite can move either in a closed or open orbit
b) Satellite orbits in a bound system
c) A satellite moves in an elliptical orbit
d) A satellite does not move in a path that never returns to its starting point

Why an object projected at an escape velocity does not come back to the earth?
a) Unbounded system
b) Bounded system
c) Gravitational law does not work
d) Free-fall system does not work

Sample Quiz Question

Which of the following statements is true?
a) g is higher at the Equator, less at the poles
b) Higher g value at the equator is influenced by the Earth's shape
c) Lower g value at the poles is influenced by the Earth's rotation
d) g is lower at the Equator, higher at the poles

How can a satellite be in a geostationary orbit?
a) It moves faster than Earth’s rotation
b) It remains fixed above one point on Earth
c) It moves in a polar orbit
d) It orbits the Moon

Probable Final Questions: Lecture 20

State the bound state condition of a system. Determine the maximum speed required for an object to remain in a bounded system of the Earth.