Chapters/ Sections will be Covered

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

Chapter Title: Kinetic Energy and Work

Sections: Kinetic Energy
Work
Work Done by the Gravitational Force
Work Done by the Spring Force
Work Done by a General Variable Force
Power

Sample Quiz Question

Why do kinetic energy and work have the same unit as Joule?
a) Work-Kinetic Energy Theorem
b) Work and kinetic energy are scalar
c) The same force is working on a particle for both purposes
d) None of the above

If a particle is moving in the same direction as the force applied, what is the power of the particle?
a) Has minimum power
b) Has maximum power
c) Double the power
d) Half of the power

Sample Quiz Question

An object is rising against gravitational force. What is its net work done on the object?
a) Maximum value
b) Minimum value
c) Constant
d) Cannot be determined

What is the work of an object?
a) Momentum transferred
b) Velocity transferred
c) Power transferred
d) Energy transferred

Sample Quiz Question

What is a kilowatt-hour unit?
a) Energy unit
b) Power unit
c) Electrical power unit
d) Voltage unit

What does it mean by the rate of work done by a force on an object?
a) Kinetic energy
b) Potential energy
c) Power
d) Average Work

Probable Mid-term Questions: Lecture 9

Construct a relationship where work done is the change of kinetic energy of a system.

If a variable force $F(x)$ is applied to a spring, deduce an expression for the net work done on the spring.

Or, Derive an expression for the kinetic energy of a spring.