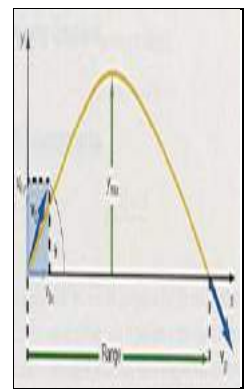
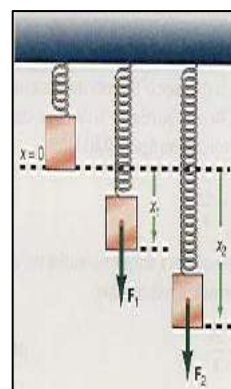
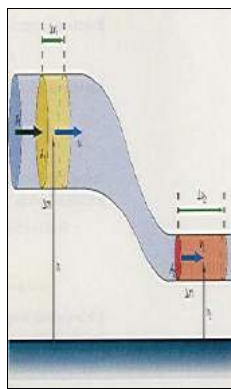
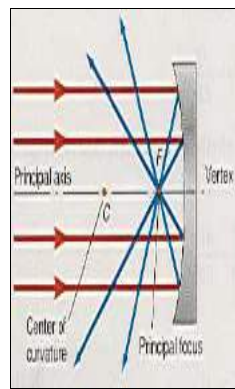
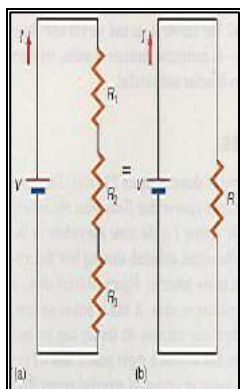


Kirkuk University  
Science College

# *Lectures of General Physics*



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# GENERAL PHYSICS

## General Physics Lectures

### Lecture ( 1 ) – Motion

#### Part ( 1a ) – Kinematics

- 1.1 Kinematics - The Study of Motion
- 1.2 A Body Moving at Constant Velocity
- 1.3 A Body Moving at Constant Acceleration
- 1.4 The Instantaneous Velocity and Instantaneous Acceleration of a Moving Body
- 1.5 The Kinematic Equations
- 1.6 The Freely Falling Body
- 1.7 Projectile Motion

#### Part ( 1b ) – Dynamics

- 1.8 Newton's Laws of Motion Newton's first law of motion
- 1.9 Friction

### Lecture ( 2 ) – Matter Properties

#### Part ( 2a ) – Mechanic Properties

- 2.1 Hooke's Law-Stress and Strain
- 2.2 Hooke's Law for a Spring
- 2.3 Elasticity of Shape-Shear
- 2.4 Elasticity of Volume

#### Part ( 2b ) – Thermal Properties

- 2.5 Temperature
- 2.6 Heat
- 2.7 Specific Heat
- 2.8 Thermal Expansion
- 2.9 The Gas Laws

### Lecture ( 3 ) - Fluids

#### Part ( 3a ) – Static Fluids

- 3.1 Introduction
- 3.2 Density
- 3.3 Pressure
- 3.4 Pascal's Principle
- 3.5 Archimedes' Principle

#### Part ( 3b ) – Dynamic Fluids

- 3.6 The Equation of Continuity
- 3.7 Bernoulli's Theorem
- 3.8 Application of Bernoulli's Theorem

### Lecture ( 4 ) - Optics

#### Part ( 4a ) - Reflection

- 4.1 Light as an Electromagnetic Wave
- 4.2 The Law of Reflection
- 4.3 The Plane Mirror
- 4.4 The Concave Spherical Mirror
- 4.5 The Convex Spherical Mirror
- 4.6 The Mirror Equation and Magnification

#### Part ( 4b ) - Refraction

- 4.7 Refraction
- 4.8 The Law of Refraction
- 4.9 Total Internal Reflection
- 4.10 Thin Lenses
- 4.11 The Lens Equation

### Lecture ( 5 ) – Electricity

#### Part ( 5a ) – Electrostatic and Electric Field

- 5.1 Introduction
- 5.2 Coulomb's Law
- 5.3 The Electric Field
- 5.4 The Electric Field of a Point Charge

#### Part ( 5b ) – Electric Currents and DC Circuits

- 5.5 Electric Current
- 5.6 Ohm's Law
- 5.7 Resistivity
- 5.8 Resistors in Series
- 5.9 Resistors in Parallel