

2nd Semester Physics Review

Chapter 8: Circular Motion

Rotation
Revolution
Axis
Rotational Velocity
Tangential Velocity
Centripetal Force
Centripetal Acceleration

Chapter 9: Center of Gravity

Center of Gravity
Toppling
Stable equilibrium
Unstable equilibrium

Chapter 10: Rotational Mechanics

Torque
Lever Arm
Rotational Inertia
Rotational Velocity
Angular Momentum
Law of Conservation of Angular Momentum

Chapter 11 - 13: Gravity

Gravity

Newton's Law of Universal Gravitation

Acceleration due to gravity

Tangential velocity

Circular orbit vs. Elliptical orbit

Ocean tides

Chapter 14: Electrostatics

Electrical charges - electrons & protons

Electrical force

Fundamental Rule of Electric Charges

Coulomb's Law

Coulomb

Methods of Charging - friction, conduction, induction

Electric Potential Energy

Chapter 15: Electrical Current & Ohm's Law

Electrical current - ampere
Voltage - potential difference
Resistance - ohm
Ohm's Law
Electrical Power - watts
Electrical Energy - kilowatt-hour
Electric Cost - \$

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Chapter 16: Electrical Circuits

Simple circuit
Schematic diagram
Series Circuit vs. Parallel Circuits
Circuit Breakers vs. Fuses

Chapter 17: Electromagnetism

Magnetism
Magnetic Domains
Magnetic Poles
Magnetic Force
Magnetic Fields
Geographic vs. Magnetic Poles of Earth
Right-Hand Rule
Electromagnet
Electric motor
Electromagnetic Induction
Generator
Transformer - step-up or step-down
Power plant

Chapter 18-19: Waves & Sound

Wave - Hertz
Pendulum
Transverse wave...crests/troughs
Longitudinal wave...compressions/rarefactions
Amplitude, Wavelength, Frequency, Time Period
Wave speed
Sound
Infrasonic vs. Ultrasonic
Speed of Sound
Pitch

Chapter 20 - 21: Light and Color

Electromagnetic Spectrum
[Radio - Microwaves - Infrared - Visible Light - UV - X rays - Gamma](#)
Wave speed, frequency, wavelength, photon energy
Color Spectrum
Color of Objects
Primary Colors of Light
Primary Pigments
White vs. Black

Chapter 22 - 23: Lenses

Reflection
Law of Reflection
Refraction
Index of Refraction
Snell's Law
Prism
Lens
Converging lens
Diverging lens
Real vs. virtual images
Nearsightedness vs. Farsightedness