

TOPICS FOR THE FINAL

STRAIGHT LINEGRAPHS

Plotting points getting best straight line
and estimating its slope.
Axes, scales, labels

VECTORS –

Addition, subtraction
Components

MOTION

Displacement
Velocity
Acceleration
Relationships between them

Freefall
Projectile motion

DYNAMICS

Force
Newton's Laws of Motion
Action-reaction pairs
Free Body Diagrams
 $F=ma$ problems

GRAVITY

Newton's Law of Gravitation
Circular orbits and centripetal force
Motion of planet and other satellites

WORK, POWER AND ENERGY

Work
Power
Energy
 Kinetic Energy
 Potential Energy
 Gravitation
 Spring (and Hooke's Law)
Conservation of Energy

LINEAR MOMENTUM

Impulse
Impulse-Momentum Theorem
Conservation of Linear Momentum

FLUIDS

Pressure
Fluid pressure with depth
Archimedes Principles
Continuity Equation
Bernoulli's Principle

HEAT AND THERMODYNAMICS

Specific Heat
Heat transfer -
 conduction,
 convection,
 radiation including
Greenhouse effect
1st Law of Thermodynamics
 Heat Engines and
Refrigerators – Most basic

ELECTRICITY & MAGNETISM

Statements & Comparison
 Force between magnets
 Coulomb's Law
 Newton's Law of Gravitation
Electric Field
Electric Potential
Ohm's Law
Electric Power
Parallel and Series Circuits
Magnetic Fields
Electromagnets
Faraday's Law
Transformers