

JEE Main Physics Chapter-wise Weightage Analysis

JEE Main Physics - Official Weightage Distribution

Topic/Chapter	Number of Questions	Total Marks
Modern Physics	5	20
Heat and Thermodynamics	3	12
Optics	3	12
Current Electricity	3	12
Electrostatics	3	12
Magnetism	2	8
Unit, Dimension and Vector	1	4
Kinematics	1	4
Laws of Motion	1	4
Work, Power and Energy	1	4
Centre Of Mass, Impulse and Momentum	1	4
Rotation	1	4
Gravitation	1	4
Simple Harmonic Motion	1	4
Solids and Fluids	1	4
Waves	1	4
Electromagnetic Induction	1	4

Key Insights for JEE Main Physics Preparation

Highest Weightage Topics (> 10 marks)

- Modern Physics (20 marks)** - Covers Photoelectric Effect, Bohr's Model, Nuclear Physics, Semiconductors
- Heat and Thermodynamics (12 marks)** - Laws of Thermodynamics, Heat Engines, Kinetic Theory
- Optics (12 marks)** - Ray Optics, Wave Optics, Interference, Diffraction
- Current Electricity (12 marks)** - Ohm's Law, Circuits, Electrical Instruments
- Electrostatics (12 marks)** - Coulomb's Law, Electric Field, Capacitors

Medium Weightage Topics (8 marks)

- Magnetism** - Magnetic Fields, Electromagnetic Force

Standard Weightage Topics (4 marks each)

All remaining topics carry equal weightage of 1 question each.

Study Strategy for Physics

Priority 1: High Weightage Topics (Focus Areas)

- **Modern Physics:** Allocate maximum study time
- **Electromagnetism Cluster:** Electrostatics, Current Electricity, Magnetism, Electromagnetic Induction
- **Optics:** Both geometrical and physical optics
- **Thermodynamics:** Theoretical concepts and numerical problems

Priority 2: Foundation Topics

- **Mechanics Foundation:** Kinematics, Laws of Motion, Work-Power-Energy
- **Rotational Mechanics:** Rotation, Centre of Mass
- **Oscillations and Waves:** SHM, Wave Motion

Priority 3: Supporting Topics

- **Unit and Dimensions:** Quick revision topic
- **Gravitation:** Universal laws and applications
- **Properties of Matter:** Solids and Fluids

Chapter-wise Preparation Strategy

Modern Physics (Highest Priority - 20 marks)

Key Topics:

- Photoelectric Effect
- Bohr's Atomic Model
- X-rays
- Radioactivity and Nuclear Physics
- Semiconductors and Electronics

Preparation Time: 25-30% of total physics study time

Electromagnetism Cluster (Combined 36 marks)

Electrostatics (12 marks):

- Electric Field and Potential
- Gauss's Law
- Capacitors and Dielectrics

Current Electricity (12 marks):

- Ohm's Law and Resistance
- DC Circuits
- Electrical Measurements

Magnetism (8 marks):

- Magnetic Field due to Current
- Force on Moving Charges
- Magnetic Properties of Matter

Electromagnetic Induction (4 marks):

- Faraday's Laws
- Lenz's Law
- AC Generators

Preparation Time: 35-40% of total physics study time

Optics (12 marks)

Ray Optics:

- Reflection and Refraction
- Lenses and Mirrors
- Optical Instruments

Wave Optics:

- Interference
- Diffraction
- Polarization

Preparation Time: 15-20% of total physics study time

Heat and Thermodynamics (12 marks)

Key Areas:

- First and Second Laws of Thermodynamics
- Heat Engines and Refrigerators
- Kinetic Theory of Gases
- Calorimetry

Preparation Time: 15-20% of total physics study time

Mechanics Topics (Combined 20 marks)

Individual Topics (4 marks each):

- Kinematics
- Laws of Motion
- Work, Power