

## JEE Main Physics Syllabus

Physics and Measurement	Thermodynamics
Kinematics	Rotational Motion
Gravitation	Work and Energy
Power	Properties of Solids and Liquids
Laws of Motion	Electronic Devices
Oscillations	Waves
Current Electricity	Electromagnetic Waves
Communication Systems	Electromagnetic Induction
Magnetism	Alternating Currents
Magnetic Effects of Current	Kinetic Theory of Gases
Dual Nature of Matter	Radiation
Atoms	Nuclei
Optics	Electrostatics

Physics is an interesting subject for most JEE aspirants. A good score from this section requires meticulous preparation. Concepts like electricity, mechanics, and magnetism constitute around 65% of the marks distribution. All the important concepts are of utmost importance.

## JEE Main Chemistry Syllabus

## Physical Chemistry

Basic Concepts in Chemistry

States of Matter

Chemical Bonding

Atomic Structure

Molecular Structure

Solutions

Redox Reactions

Chemical Thermodynamics

Equilibrium

Electrochemistry

Surface Chemistry

Chemical Kinetics

## Organic Chemistry

Polymers

Principles of Practical Chemistry

Organic Compounds – Characterisation and Purification of Organic Compounds  
Oxygen, Halogens, and Nitrogen Organic Compounds

Hydrocarbons

Biomolecules

Basic Principles of Organic Chemistry

Chemistry in Everyday Life

## Inorganic Chemistry

Hydrogen

Classification of Elements

Periodicity

Alkali metals

Group 13 to Group 18 Elements

Alkaline Earth Metals

D and f Block Elements

Coordination Compounds

Environmental Chemistry

Isolation of Metals

All three sections of Chemistry are interlinked. Candidates can start with the Physical Chemistry section before moving on to the other two parts. Practise solving different types of questions like matching type, multiple-choice, assertion reason type questions to boost one's reasoning skills.

## JEE Main Maths Syllabus

Sets, Relations, and Functions

Complex Numbers

Determinant

Quadratic Equations

Matrices

Permutations Combinations

Mathematical Induction

Sequence Series

Binomial Theorem

Limits and Continuity

Differentiability

Statistics

Differential Equations

Integral Calculus

Trigonometry

Vector Algebra

Coordinate Geometry

Mathematical Reasoning

3D Geometry

Probability

Topics covered in Maths are a perfect blend of simple and complex topics. Maths is easy to score if students understand the basic concepts well. Concentrate on concept building and enhancing numerical solving skills by practising often.

## JEE Main Paper 1 Exam Pattern

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<b>Exam Mode:</b> Computer-based (Online)
<b>Exam Duration:</b> 3 Hours
<b>Subjects:</b> Physics, Chemistry, and Mathematics
<b>Total Number of Questions:</b> 90 (30 Physics + 30 Chemistry + 30 Maths)
<b>Question Types:</b> MCQs and Numerical Questions for Each Subject (PCM)
<b>Maximum Marks:</b> 300
<b>Marking Scheme:</b> MCQ: Correct Answer = +4, Incorrect Answer = -1, Unattempted Answer = 0 Numerical Question: Correct Answer = +4, Incorrect Answer = -1, Unattempted Answer = 0
<b>Languages:</b> English, Hindi, Gujarati, Assamese, Bengali, Kannada, Malayalam, Marathi, Odia, Punjabi, Tamil, Telegu and Urdu

## Important Physics Topics for JEE Main (Marks-wise Weightage as per Previous Year Data)

Please note that these topics have been listed from the trends observed over the last 5 years. Also, each question carries 4 marks.

<b>Electrostatics</b> – 1 Question (3.3% Weightage)
<b>Current Electricity</b> – 3 Questions (9.9% Weightage)
<b>Capacitors</b> – 1 Question (3.3% Weightage)
<b>Magnetic Effect of Current and Magnetism</b> – 2 Questions (6.6% Weightage)
<b>Alternating Current</b> – 2 Questions (6.6% Weightage)
<b>Kinetic Theory of Gases &amp; Thermodynamics</b> – 2 Questions (6.6% Weightage)
<b>Simple Harmonic Motion</b> – 1 Question (3.3% Weightage)

<b>Sound Waves</b> – 1 Question (3.3% Weightage)
<b>Kinematics</b> – 2 Questions (6.6% Weightage)
<b>Work, Energy, and Power</b> – 2 Questions (6.6% Weightage)
<b>Laws of Motion</b> – 2 Questions (6.6% Weightage)
<b>Centre of Mass</b> – 2 Questions (6.6% Weightage)
<b>Rotational Dynamics</b> – 2 Questions (6.6% Weightage)
<b>Modern Physics</b> – 2 Questions (6.6% Weightage)
<b>Elasticity</b> – 1 Question (3.3% Weightage)
<b>Wave Optics</b> – 2 Questions (6.6% Weightage)
<b>Error in Measurement</b> – 1 Question (3.3% Weightage)
<b>Circular Motion</b> – 1 Question (3.3% Weightage)
<b>Electromagnetic Waves</b> – 1 Question (3.3% Weightage)
<b>Semiconductors</b> – 1 Question (3.3% Weightage)
<b>Communication Systems</b> – 1 Question (3.3% Weightage)

## Important Chemistry Topics for JEE Main (Marks-wise Weightage as per Previous Year Data)

<b>Transition Elements &amp; Coordination Compounds</b> – 3 Questions (9.9% Weightage)
<b>Periodic table, s and p-Block Elements</b> – 3 Questions (9.9% Weightage)
<b>Thermodynamics &amp; the Gaseous State</b> – 2 Questions (6.6% Weightage)

<b>Atomic Structure</b> – 2 Questions (6.6% Weightage)
<b>Chemical Bonding</b> – 2 Questions (6.6% Weightage)
<b>Chemical and Ionic Equilibrium</b> – 2 Questions (6.6% Weightage)
<b>Solid-State and Surface Chemistry</b> – 2 Questions (6.6% Weightage)
<b>Nuclear &amp; Environmental Chemistry</b> – 2 Questions (6.6% Weightage)
<b>Mole Concept</b> – 1 Question (3.3% Weightage)
<b>Redox Reactions</b> – 1 Question (3.3% Weightage)
<b>Electrochemistry</b> – 1 Question (3.3% Weightage)
<b>Chemical Kinetics</b> – 1 Question (3.3% Weightage)
<b>Solution &amp; Colligative Properties</b> – 1 Question (3.3% Weightage)
<b>General Organic Chemistry</b> – 1 Question (3.3% Weightage)
<b>Stereochemistry</b> – 1 Question (3.3% Weightage)
<b>Hydrocarbon</b> – 1 Question (3.3% Weightage)
<b>Alkyl Halides</b> – 1 Question (3.3% Weightage)
<b>Carboxylic Acids &amp; Their Derivatives</b> – 1 Question (3.3% Weightage)
<b>Carbohydrates, Amino Acids, and Polymers</b> – 1 Question (3.3% Weightage)
<b>Aromatic Compounds</b> – 1 Question (3.3% Weightage)

Important Maths Topics for JEE Main (Marks-wise Weightage as per Pre Year Data)

<b>Quadratic Equations</b> – 1 Question (3.3% Weightage)
<b>Sequences &amp; Series</b> – 2 Questions (6.6% Weightage)
<b>Trigonometric Equations</b> – 1 Question (3.3% Weightage)
<b>Limits</b> – 1 Question (3.3% Weightage)
<b>Differentiability</b> – 1 Question (3.3% Weightage)
<b>Indefinite Integration</b> – 1 Question (3.3% Weightage)
<b>Definite Integration</b> – 1 Question (3.3% Weightage)
<b>Differential Equations</b> – 1 Question (3.3% Weightage)
<b>The Area under the Curve</b> – 1 Question (3.3% Weightage)
<b>Straight Lines</b> – 2 Questions (6.6% Weightage)
<b>Vectors</b> – 1 Question (3.3% Weightage)
<b>3D Geometry</b> – 2 Questions (6.6% Weightage)
<b>Permutations &amp; Combinations</b> – 1 Question (3.3% Weightage)
<b>Probability</b> – 1 Question (3.3% Weightage)
<b>Complex Numbers</b> – 1 Question (3.3% Weightage)
<b>Binominal Theorem</b> – 1 Question (3.3% Weightage)
<b>Determinants</b> – 2 Questions (6.6% Weightage)
<b>Tangents and Normals</b> – 1 Question (3.3% Weightage)
<b>Maxima and Minima</b> – 1 Question (3.3% Weightage)

<b>Statistics</b> – 1 Question (3.3% Weightage)
<b>Parabola</b> – 1 Question (3.3% Weightage)
<b>Ellipse</b> – 1 Question (3.3% Weightage)
<b>Hyperbola</b> – 1 Question (3.3% Weightage)
<b>Mathematical Reasoning</b> – 1 Question (3.3% Weightage)
<b>Height &amp; Distance</b> – 1 Question (3.3% Weightage)
<b>Sets</b> – 1 Question (3.3% Weightage)

## JEE Main Paper 2A and 2B Syllabus (Aptitude Test B. Arch/B.Planning)

ness of persons, places, buildings, materials. Objects, texture related to architecture and built environment. Visualising three-dimensional objects from two-dimensional drawings. Visualising different three-dimensional objects. Analytical reasoning mental ability (Visual, numerical and verbal).

Dimensional perception: Understanding and appreciation of scale and proportion of objects, buildings, colour texture, harmony and contrast. Design and drawing of geometrical or abstract shapes in pencil. Transformation of forms, both 2D and 3D union, subtraction, rotation, development of surfaces, Generation of plan, elevations and 3D views of objects. Creating two-dimensional and three-dimensional compositions using given shapes and forms.

Drawing of scenes and activities from memory of urban space (public space, market, festivals, monuments, recreational spaces, etc.), landscape (river fronts, jungles, trees, etc.) and rural life.

## JEE Main Paper 2A and 2B Exam Pattern

<b>Exam Mode:</b> Computer-based (Online)
<b>Exam Duration:</b> 3 Hours
<b>Subjects:</b> Mathematics, General Aptitude, & Drawing (B.Arch.) or Planning (B.Plan.)



<b>Total Number of Questions:</b>
<b>B.Arch.:</b> 82 (30 Maths + 50 Aptitude + 2 Drawing )
<b>B.Plan.:</b> 105 (30 Maths + 50 Aptitude + 25 Planning)
<b>Question Types:</b>
<ul style="list-style-type: none"> <li>• 20 MCQs and 10 Numerical Questions for Maths <ul style="list-style-type: none"> <li>• 50 MCQs for Aptitude</li> <li>• 25 MCQs for Planning (B.Plan. only)</li> </ul> </li> <li>• 2 Drawing Questions for Drawing (B.Arch. only).</li> </ul>
<b>Maximum Marks:</b> 400
<b>Marking Scheme:</b>
<ul style="list-style-type: none"> <li>• MCQ: Correct Answer = +4, Incorrect Answer = -1, Unattempted Answer = 0 <ul style="list-style-type: none"> <li>• Drawing Section = 2 Questions for a Total of 100 Marks</li> </ul> </li> </ul>
<b>languages:</b> English, Hindi, Gujarati, Assamese, Bengali, Kannada, Malayalam, Marathi, Odia, F Tamil, Telegu and Urdu

After going through the JEE main syllabus, students can also analyse the previous years' [JEE Main ques papers](#) and the pattern, which will be highly beneficial in designing a proper study plan.