

JEE MAIN

2015

TOPIC WISE ANALYSIS



JEE Main 2015 Paper

| | |
|--------------------------------|---|
| Conducting Body | CBSE |
| Exam Date | 4th April, 2015 |
| Exam Mode | Offline Test (Pen and Paper Based) |
| Exam Paper and Duration | 2 papers (Paper 1 and Paper 2) of 3 hours each |
| Subjects or Sections | Physics, Chemistry, Maths / 3 Sections |
| No. of Questions | 30 from each section. Total 90 questions |
| Marks | 120 marks per section. Total 360 Marks |
| Question Type | MCQs and single correct option. |
| For correct Answers | +4 marks |
| For incorrect Answers | 1/4 marks of total marks per question |

JEE Main 2015 Offline Paper: Distribution of Questions

JEE Main 2015 paper consisted of questions that were distributed in the following manner:

| Subject | Class 11 | | Class 12 | | Total | |
|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|
| | No of Questions | Total Marks | No of Questions | Total Marks | No of Questions | Total Marks |
| Mathematics | 16 | 64 | 14 | 56 | 30 | 120 |
| Physics | 13 | 52 | 17 | 68 | 30 | 120 |
| Chemistry | 10 | 40 | 20 | 80 | 30 | 120 |
| Grand Total | 39 | 156 | 52 | 204 | 90 | 360 |

The number of questions asked from 11th-grade syllabus was 39 and from 12th-grade syllabus was 52, hence 53% of questions were from 12th and 47% were from 11th.

JEE Main 2015: Expert's Viewpoint

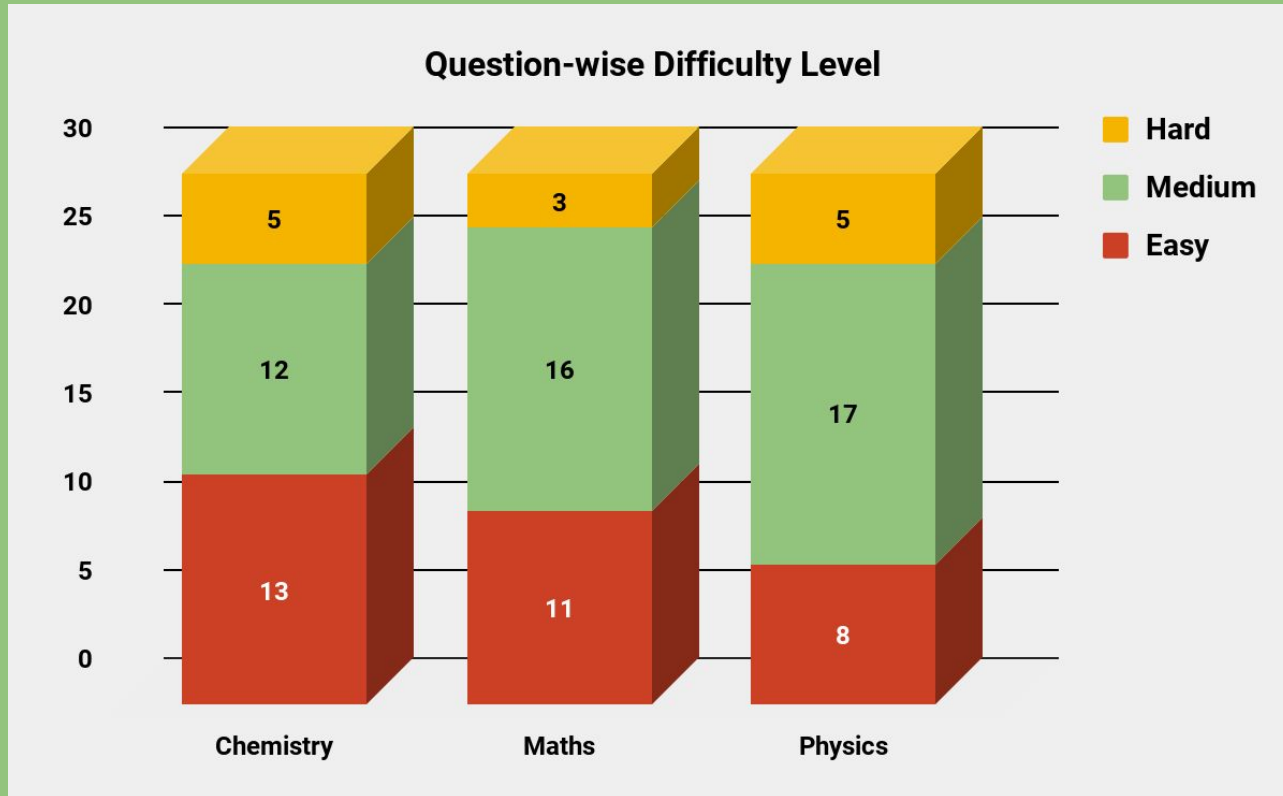
- As per the experts the overall difficulty level of paper I is as follows:

| Subjects | Difficulty Level |
|-----------|--|
| Physics | Toughest section. |
| Chemistry | Easy to moderate with fact based questions. |
| Maths | Surprisingly easy questions were present. |
| Overall | The paper was moderate in terms of difficulty level. Neither it was too hard to solve, nor too easy. |

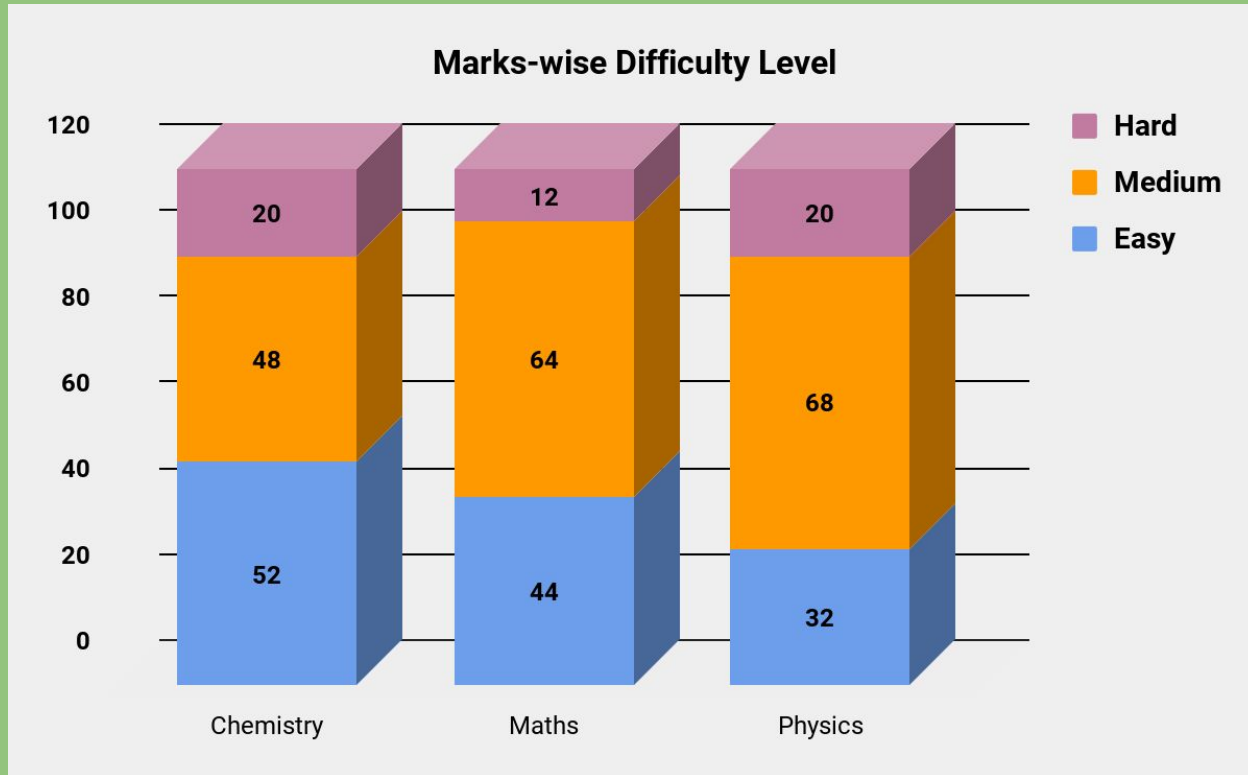
JEE Main 2015 Overall Difficulty Analysis

| Subject | Easy | | Moderate | | Tough | |
|-------------|------------------|-------------|------------------|-------------|------------------|-------------|
| | No. of Questions | Total Marks | No. of Questions | Total Marks | No. of Questions | Total Marks |
| Maths | 11 | 44 | 16 | 64 | 3 | 12 |
| Physics | 8 | 32 | 17 | 68 | 5 | 20 |
| Chemistry | 13 | 52 | 12 | 48 | 5 | 20 |
| Grand Total | 32 | 128 | 45 | 180 | 13 | 52 |

JEE Main 2015 Question-wise Difficulty Level



JEE Main 2015 Marks-wise Difficulty Level



JEE Main 2015 Paper I Analysis: Chemistry

- Chemistry was the easiest section.
- Most of the questions were fact-based and if students with good knowledge of the basics, they should be able to score high marks.
- Some questions were tricky in nature while some were numerical questions as well as direct application based questions were asked.
- Less time to solve all the questions.

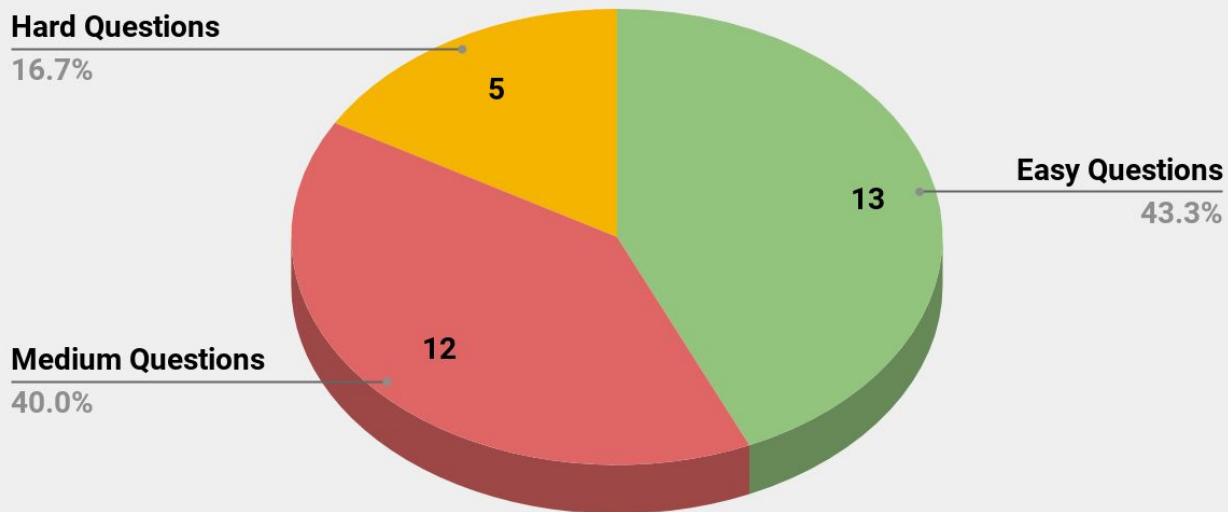
| Subject | Class 11 | | Class 12 | | Total | |
|-----------|------------------|-------------|------------------|-------------|-----------------|-------------|
| | No. of Questions | Total Marks | No. of Questions | Total Marks | Total Questions | Total Marks |
| Chemistry | 10 | 40 | 20 | 80 | 30 | 120 |

| Topic wise Question Breakup in Chemistry | | |
|---|------------------------|---------------------------|
| Topics | No of Questions | Weightage of Marks |
| Inorganic Chemistry | 11 | 36.67% |
| Chemical Bonding | 2 | 6.67% |
| d-block & f-block | 1 | 3.33% |
| Metallurgy | 1 | 3.33% |
| p-block | 3 | 10.00% |
| Periodic Table & Periodicity in Properties | 1 | 3.33% |
| Qualitative Analysis | 1 | 3.33% |
| s-block | 1 | 3.33% |
| Transition Elements and Coordination Chemistry | 1 | 3.33% |
| Organic Chemistry | 9 | 30.00% |
| Alkyl Halide, Alcohol & Ether | 2 | 6.67% |
| Aromatic Compound | 1 | 3.33% |

| Topic wise Question Breakup in Chemistry | | |
|--|-----------------|--------------------|
| Topics | No of Questions | Weightage of Marks |
| Carbohydrates, Amino Acids and Polymers | 1 | 3.33% |
| IUPAC & Isomerism | 2 | 6.67% |
| Practical Organic Chemistry | 3 | 10.00% |
| Physical Chemistry | 10 | 33.33% |
| Atomic Structure | 1 | 3.33% |
| Chemical Equilibrium | 1 | 3.33% |
| Chemical Kinetics | 1 | 3.33% |
| Electrochemistry | 1 | 3.33% |
| Mole Concept | 1 | 3.33% |
| Solid State | 1 | 3.33% |
| Solution & Colligative Properties | 1 | 3.33% |
| Surface Chemistry | 2 | 6.67% |
| Thermodynamics & Thermochemistry | 1 | 3.33% |

JEE Main 2015 Paper Analysis: Chemistry Section

No of Questions and Difficulty Percentage



JEE Main 2015 Paper I Analysis: Maths Section

- The questions were surprisingly easy but lengthy.
- Questions were less calculation based and more of direct application based.
- Candidates had a good chance of scoring well in this section.
- All questions were set from the prescribed syllabus.

| Subject | Class 11 | | Class 12 | | Total | |
|---------|------------------|-------------|------------------|-------------|-----------------|-------------|
| | No. of Questions | Total Marks | No. of Questions | Total Marks | Total Questions | Total Marks |
| Maths | 16 | 64 | 14 | 56 | 30 | 120 |

| Topic wise Question Breakup in Maths | | |
|---|------------------------|---------------------------|
| Topics | No of Questions | Weightage of Marks |
| Area under curve | 1 | 3.30% |
| Area Between two Curves | 1 | 3.30% |
| Circle | 1 | 3.30% |
| Position of Two Circles | 1 | 3.30% |
| Complex Numbers | 1 | 3.30% |
| Properties of Modulus | 1 | 3.30% |
| Differential equation | 1 | 3.30% |
| Linear Differential Equation | 1 | 3.30% |
| Ellipse | 1 | 3.30% |
| Tangents | 1 | 3.30% |
| Parabola | 1 | 3.30% |
| Parametric Coordinates | 1 | 3.30% |
| Probability | 1 | 3.30% |
| Classical Probability | 1 | 3.30% |
| Quadratic Equation | 1 | 3.30% |
| Relation Between Roots & Coefficients | 1 | 3.30% |

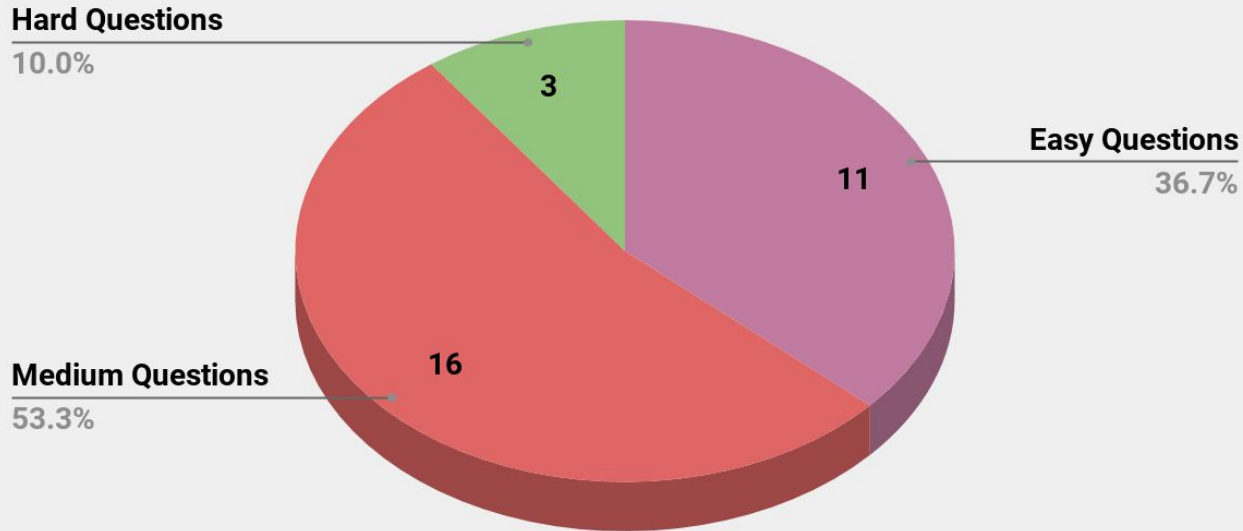
| Topic wise Question Breakup in Maths | | |
|--------------------------------------|-----------------|--------------------|
| Topics | No of Questions | Weightage of Marks |
| Matrix & Determinants | 2 | 6.70% |
| Multiplication of Matrices | 1 | 3.30% |
| Cramer's Rule | 1 | 3.30% |
| Permutation & Combination | 1 | 3.30% |
| Fundamental Theorem of Counting | 1 | 3.30% |
| Binomial Theorem | 1 | 3.30% |
| Summation of Series | 1 | 3.30% |
| Sequence & Series | 2 | 6.70% |
| Geometric Mean | 1 | 3.30% |
| Miscellaneous Series | 1 | 3.30% |
| Vector | 1 | 3.30% |
| Vector Triple Product | 1 | 3.30% |
| Statistics | 1 | 3.30% |
| Mean | 1 | 3.30% |
| Mathematical Reasoning | 1 | 3.30% |
| Negation | 1 | 3.30% |

| Topic wise Question Breakup in Maths | | |
|---|------------------------|---------------------------|
| Topics | No of Questions | Weightage of Marks |
| Vector & 3-D | 2 | 6.70% |
| Family of Planes | 1 | 3.30% |
| Intersection of Plane and Line | 1 | 3.30% |
| Inverse Trigonometric function | 1 | 3.30% |
| Addition of Inverse Trigonometric Function | 1 | 3.30% |
| Sets & Relation | 1 | 3.30% |
| Subset | 1 | 3.30% |
| Limit of function | 1 | 3.30% |
| Standard Limit | 1 | 3.30% |
| Continuity & Derivability | 1 | 3.30% |
| Differentiability | 1 | 3.30% |
| Tangents, Normal & Applications | 1 | 3.30% |
| Normal at a Point | 1 | 3.30% |
| Application of Derivatives | 1 | 3.30% |
| Maxima & Minima | 1 | 3.30% |

| Topic wise Question Breakup in Maths | | |
|---|------------------------|---------------------------|
| Topics | No of Questions | Weightage of Marks |
| Indefinite integration | 1 | 3.30% |
| Substitution | 1 | 3.30% |
| Definite integration | 1 | 3.30% |
| Properties of DI | 1 | 3.30% |
| Straight Line | 2 | 6.70% |
| Position of Point | 1 | 3.30% |
| Family of Planes | 1 | 3.30% |
| Height & distance | 1 | 3.30% |
| Angle of Elevation | 1 | 3.30% |

JEE Main 2015 Paper Analysis: Maths Section

No of Questions and Difficulty Percentage



JEE Main 2015 Paper I Analysis: Physics

- Physics section was the difficult section compared to Maths and Chemistry.
- Questions were mainly numerical based.
- Some question were lengthy and as a result, completion of the section was not possible.
- Very few theory based question and some ambiguous questions were also present.

| Subject | Class 11 | | Class 12 | | Total | |
|---------|------------------|-------------|------------------|-------------|-----------------|-------------|
| | No. of Questions | Total Marks | No. of Questions | Total Marks | Total Questions | Total Marks |
| Physics | 13 | 52 | 17 | 68 | 30 | 120 |

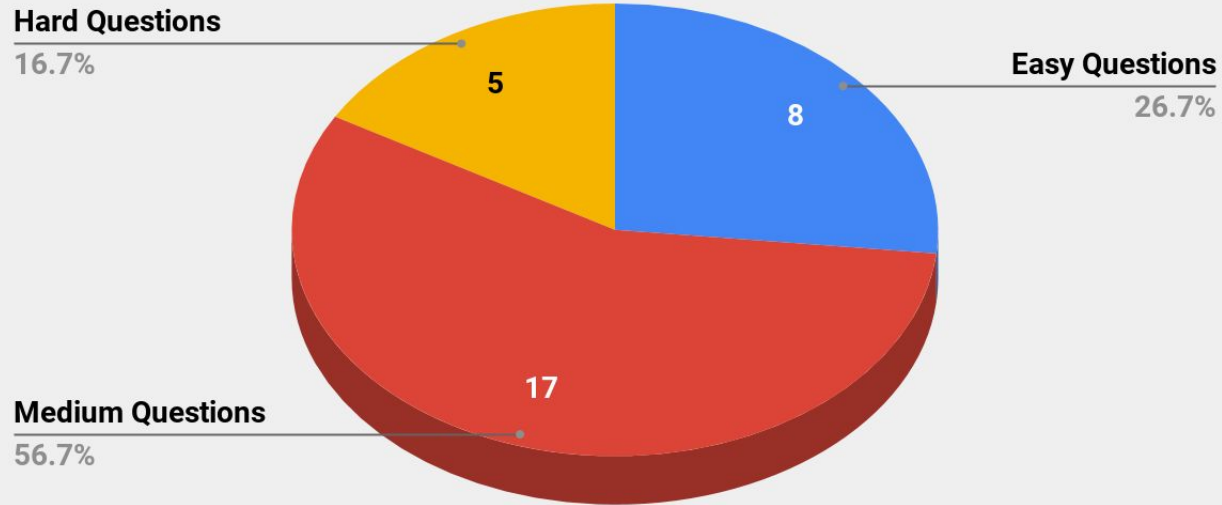
| Topic wise Question Breakup in Physics | | |
|---|------------------------|---------------------------|
| Topics | No of Questions | Weightage of Marks |
| Current Electricity | 2 | 6.70% |
| Ohms Law | 1 | 3.30% |
| Kirchoff's Law | 1 | 3.30% |
| Electro Magnetic Induction | 2 | 6.70% |
| LR Circuit | 1 | 3.30% |
| LC Oscillation | 1 | 3.30% |
| Electrostatics | 2 | 6.70% |
| Lines of Force | 1 | 3.30% |
| Electric Potential | 1 | 3.30% |
| Geometrical Optics | 1 | 3.30% |
| Prism | 1 | 3.30% |
| Modern Physics | 2 | 6.70% |
| Modern Physics | 1 | 3.30% |

| Topic wise Question Breakup in Physics | | |
|---|------------------------|---------------------------|
| Topics | No of Questions | Weightage of Marks |
| Simple Harmonic Motion | 1 | 3.30% |
| Simple Harmonic Motion | 1 | 3.30% |
| Sound Waves | 1 | 3.30% |
| Doppler | 1 | 3.30% |
| Mechanics | 8 | 26.70% |
| Elasticity | 1 | 3.30% |
| Relative Motion | 1 | 3.30% |
| Error in Measurement | 1 | 3.30% |
| Friction | 1 | 3.30% |
| Centre of Mass | 2 | 6.70% |
| Rigid Body Dynamics | 1 | 3.30% |
| Gravitation | 1 | 3.30% |
| Heat & Thermodynamics | 3 | 10.00% |
| KTG & First Law of Thermodynamics | 2 | 6.70% |
| KTG & Second Law of Thermodynamics | 1 | 3.30% |

| Topic wise Question Breakup in Physics | | |
|---|-----------------|--------------------|
| Topics | No of Questions | Weightage of Marks |
| Capacitor | 1 | 3.30% |
| Circuits | 1 | 3.30% |
| Electromagnetic Field & Forces | 3 | 10.00% |
| Force on Loop | 1 | 3.30% |
| Force on Straight Wire | 1 | 3.30% |
| Torque on Loop | 1 | 3.30% |
| Electromagnetic waves | 1 | 3.30% |
| Intensity | 1 | 3.30% |
| Wave Optics | 2 | 6.70% |
| Huygen's Principle | 1 | 3.30% |
| Resolving Power | 1 | 3.30% |
| Principles of Communications | 1 | 3.30% |
| Modulation | 1 | 3.30% |

JEE Main 2015 Paper Analysis: Physics Section

No of Questions and Difficulty Percentage



Important Topics Asked in JEE Main 2015 Paper: Physics

- ❑ Current Electricity
- ❑ Electromagnetic Induction
- ❑ Electrostatics
- ❑ Geometrical Optics
- ❑ Modern Physics
- ❑ Simple Harmonic Motion
- ❑ Sound Waves
- ❑ Mechanics
- ❑ Heat & Thermodynamics
- ❑ Capacitor
- ❑ Electromagnetic Field & Forces
- ❑ Electromagnetic waves
- ❑ Wave Optics
- ❑ Principles of Communications

Chemistry

- ❑ Inorganic Chemistry
- ❑ Chemical Bonding
- ❑ p-block
- ❑ Organic Chemistry
- ❑ Alkyl Halide, Alcohol & Ether
- ❑ IUPAC & Isomerism
- ❑ Practical Organic Chemistry
- ❑ Physical Chemistry
- ❑ Atomic Structure
- ❑ Chemical Equilibrium
- ❑ Chemical Kinetics
- ❑ Solution & Colligative Properties
- ❑ Surface Chemistry
- ❑ Thermodynamics & Thermochemistry

Maths

- ❑ Circle
- ❑ Complex Numbers
- ❑ Differential equation
- ❑ Parabola
- ❑ Probability
- ❑ Quadratic Equation
- ❑ Matrix & Determinants
- ❑ Permutation & Combination
- ❑ Binomial Theorem
- ❑ Sequence & Series
- ❑ Vector
- ❑ Statistics
- ❑ Mathematical Reasoning
- ❑ Ellipse
- ❑ Inverse Trigonometric function
- ❑ Sets & Relation
- ❑ Integration
- ❑ Straight Line

JEE Main 2015 Cutoff

| Category | Cut Off |
|----------|---------|
| General | 105 |
| OBC | 70 |
| SC | 50 |
| ST | 44 |

Thank You!

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