

# JEE ADVANCED

2014

## TOPIC WISE ANALYSIS



# JEE Advanced 2014 Paper

<b>Exam Conducting Body</b>	<b>IIT Kharagpur</b>
<b>Exam Date</b>	<b>25th May, 2014</b>
<b>Exam Mode</b>	<b>Computer-Based Online Test</b>
<b>Exam Paper and Duration</b>	<b>2 papers (Paper 1 and Paper 2) of 3 hours each</b>
<b>Subjects or Sections</b>	<b>Physics, Chemistry, Maths</b>
<b>Total Questions</b>	<b>Total 60 questions per paper</b>
<b>Total Marks</b>	<b>360 Marks / 180 marks per paper</b>
<b>Question Types</b>	<b>MCQs, Numerical Problems, Comprehension, Match the Column</b>

# JEE Advanced 2014 Paper Marking Scheme

The marking scheme that was followed in the JEE Advanced 2014 Paper I was in the following pattern for each subject:

Paper I				
Sections	Question Pattern	Marking Scheme	No. of Q.	Total Marks
1	One or More than One Correct Answer Type MCQs	+3 for correct, No Negative Marking	10	30
2	Single Digit Integer	+3 for Correct, No Negative Marking	10	30

# JEE Advanced 2014 Paper Marking Scheme

The marking scheme for Paper II was as follows for each subject:

Paper II				
Sections	Question Pattern	Marking Scheme	No. of Q.	Total Marks
1	Single Correct Answer Type MCQ	+3 for correct, -1 for wrong answer	10	30
2	Comprehension Type MCQ	+3 for Correct, -1 for wrong answer	6	18
3	Match the Column	+3 for correct, --1 for wrong answer	4	12

# JEE Advanced 2014 Paper: Distribution of Questions

The questions in both Paper I and Paper II 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
Chemistry	12	36	28	84	40	120
Mathematics	17	51	23	69	40	120
Physics	22	66	18	54	40	120
Grand Total	51	153	69	207	120	360

# JEE Advanced 2014: Expert's Viewpoint

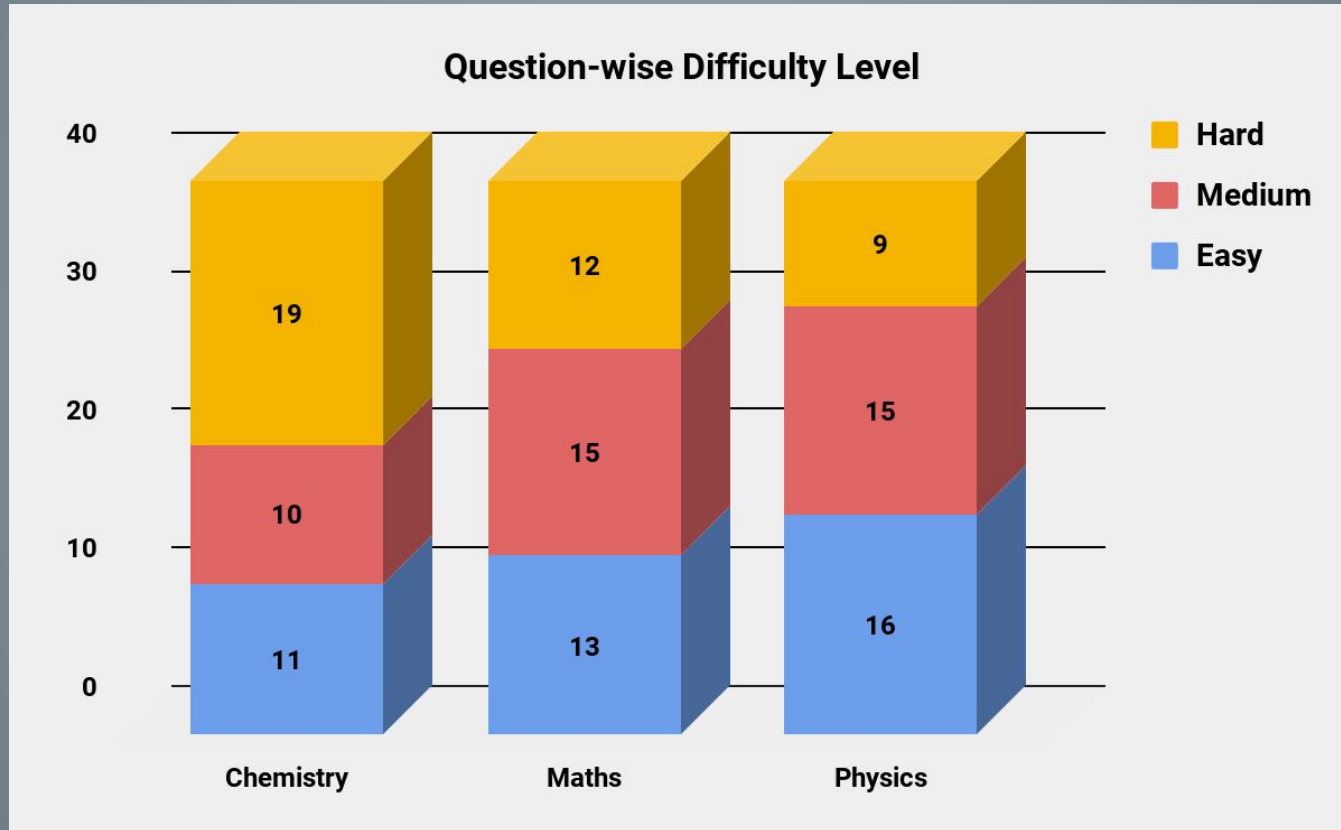
The two papers were set in the following manner:

Subjects	Difficulty Level
Physics	Physics Paper was lengthy and had more calculation based questions but overall it was an average paper.
Chemistry	This section was slightly difficult or above average. Questions asked from Organic Chemistry were complex than Physical & Inorganic portions.
Maths	The questions were from moderate to difficult and few were quite lengthy too.
Overall	Almost all questions required comprehensive thinking/working and analytical reasoning for solutions. Overall the papers were moderately difficult.

# JEE Advanced 2014 Overall Difficulty Analysis

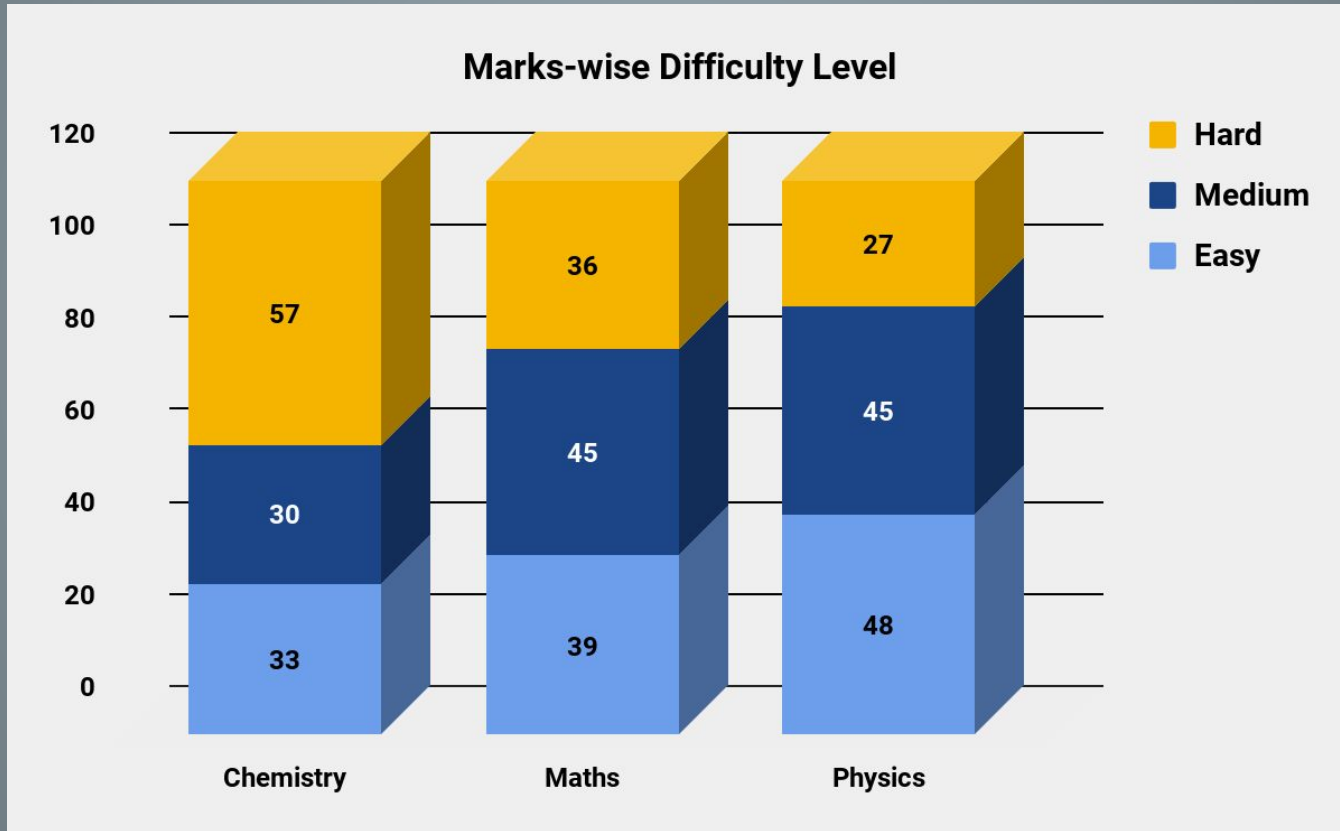
Subject	Easy		Moderate		Tough	
	No. of Questions	Total Marks	No. of Questions	Total Marks	No. of Questions	Total Marks
Physics	16	48	15	45	9	27
Chemistry	11	33	10	30	19	57
Maths	13	39	15	45	12	36
Grand Total	40	120	40	120	40	120

# JEE Advanced 2014 Question-wise Difficulty Level





# JEE Advanced 2014 Marks-wise Difficulty Level



# JEE Advanced 2014 Paper Analysis: Physics

- Physics section was on a moderate level.
- However, some of the questions were quite lengthy and consisted of both concept as well as calculation based questions.
- Some of the important chapters included Electricity & Magnetism, Heat & thermodynamics, Mechanics, General Physics, and Optics.

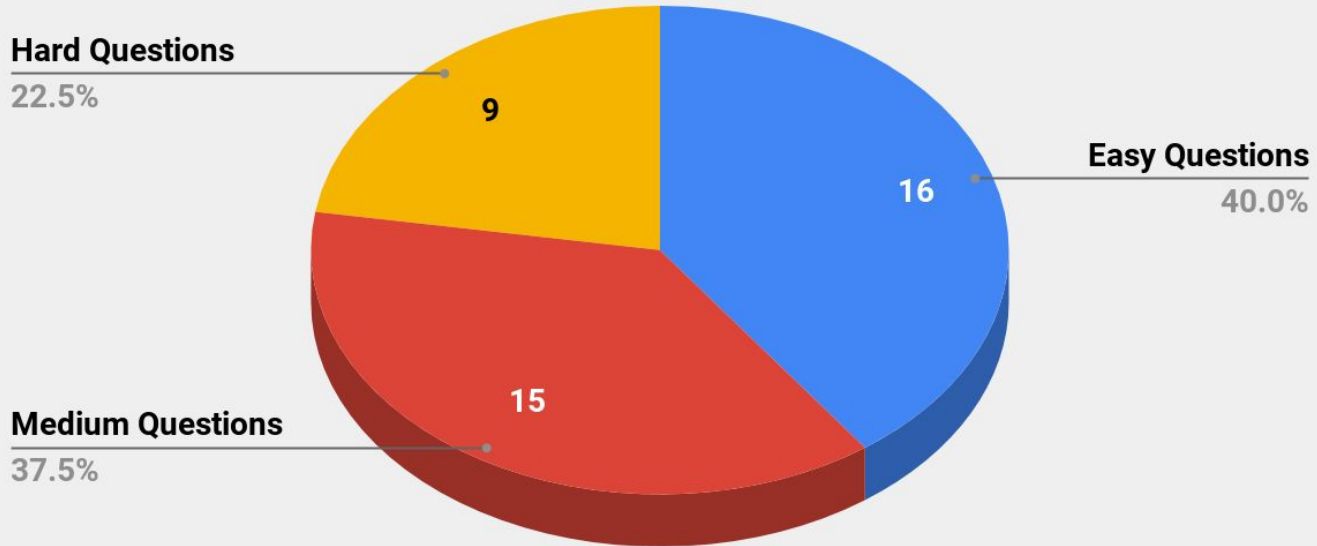
Subject	Class 11		Class 12		Total	
	No. of Questions	Total Marks	No. of Questions	Total Marks	Total Questions	Total Marks
Physics	22	66	18	54	40	120

Topic wise Question Breakup in Physics		
Topics	No of Questions	Weightage of Marks
<b>Electrodynamics</b>	<b>11</b>	<b>27.50%</b>
Capacitance	2	5.00%
Current Electricity	3	7.50%
Electromagnetic Field	3	7.50%
Electrostatics	3	7.50%
<b>Heat &amp; Thermodynamics</b>	<b>5</b>	<b>12.50%</b>
Calorimetry & Thermal Expansion	1	2.50%
KTG & Thermodynamics	4	10.00%
<b>Mechanics</b>	<b>16</b>	<b>40.00%</b>
Centre of Mass	1	2.50%
Circular Motion	1	2.50%
Elasticity & Viscosity	1	2.50%
Fluid Mechanics & Properties of Matter	3	7.50%
Friction	2	5.00%
Gravitation	1	2.50%

Topic wise Question Breakup in Physics		
Topics	No of Questions	Weightage of Marks
Projectile Motion	1	2.50%
Relative Motion	1	2.50%
Rigid Body Dynamics	2	5.00%
Surface Tension	1	2.50%
Unit & Dimension	1	2.50%
Work, Power & Energy	1	2.50%
<b>Modern Physics</b>	<b>2</b>	<b>5.00%</b>
<b>Optics</b>	<b>4</b>	<b>10.00%</b>
Geometrical Optics & Physical Optics	3	7.50%
Wave Optics	1	2.50%
<b>SHM &amp; Waves</b>	<b>2</b>	<b>5.00%</b>
Sound Waves	1	2.50%
String Wave	1	2.50%

# JEE Advanced 2014 Paper Analysis: Physics Section

No of Questions and Difficulty Percentage



# JEE Advanced 2014 Paper Analysis: Chemistry

- Chemistry section was on the difficult side.
- Questions were tricky and involved argumentative logic to answer few of them.
- 25% of the questions were from the Physical Chemistry and could be considered as 'simple and textual.
- Organic Chemistry had questions that were time consuming.
- Questions from Inorganic part were of the logical argumentative type.

Subject	Class 11		Class 12		Total	
	No. of Questions	Total Marks	No. of Questions	Total Marks	Total Questions	Total Marks
Chemistry	12	36	28	84	40	120

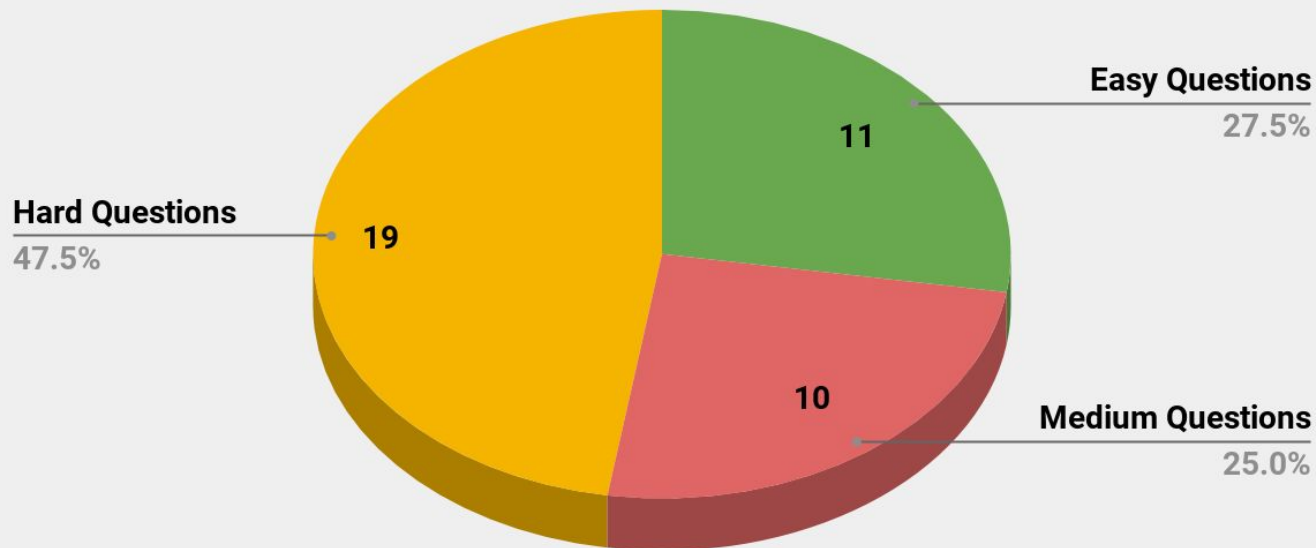
Topic wise Question Breakup in Chemistry		
Topics	No of Questions	Weightage of Marks
<b>Inorganic Chemistry-I</b>	<b>9</b>	<b>22.50%</b>
Chemical Bonding	4	10.00%
p-block	5	12.50%
<b>Inorganic Chemistry-II</b>	<b>6</b>	<b>15.00%</b>
Coordination Compounds	1	2.50%
d-block & f-block Elements	3	7.50%
Metallurgy	1	2.50%
Qualitative Analysis	1	2.50%
<b>Organic Chemistry-I</b>	<b>2</b>	<b>5.00%</b>
Hydrocarbon	2	5.00%
<b>Organic Chemistry-II</b>	<b>12</b>	<b>30.00%</b>
Alkyl Halide, Alcohol & Ether (Reaction Mechanism)	3	7.50%
Aromatic Compounds	2	5.00%
Biomolecules	1	2.50%
Carbonyl compounds	1	2.50%

Topic wise Question Breakup in Chemistry		
Topics	No of Questions	Weightage of Marks
Carboxylic Acid and their Derivatives	1	2.50%
Grignard Reagent, Reduction, Oxidation & Hydrolysis	2	5.00%
IUPAC & Isomerism	1	2.50%
Stereoisomerism	1	2.50%
<b>Physical Chemistry-I</b>	<b>8</b>	<b>20.00%</b>
Atomic Structure & Nuclear Chemistry	1	2.50%
Gaseous State	2	5.00%
Introduction to Chemistry	1	2.50%
Mole Concept	2	5.00%
Thermodynamics and Thermochemistry	2	5.00%
<b>Physical Chemistry-II</b>	<b>3</b>	<b>7.50%</b>
Chemical Kinetics	1	2.50%
Electrochemistry	1	2.50%
Solution & Colligative Properties	1	2.50%



# JEE Advanced 2014 Paper Analysis: Chemistry Section

No of Questions and Difficulty Percentage



# JEE Advanced 2014 Paper Analysis: Maths Section

- Mathematics was a moderately difficult section.
- There were direct questions as well as some of them involved logical thinking, usage of visual interpretation through graphs and critical reasoning.
- Some of the important topics included Differential Calculus and Algebra, Vector Algebra, 3-D, Coordinate Geometry and Integral Calculus.

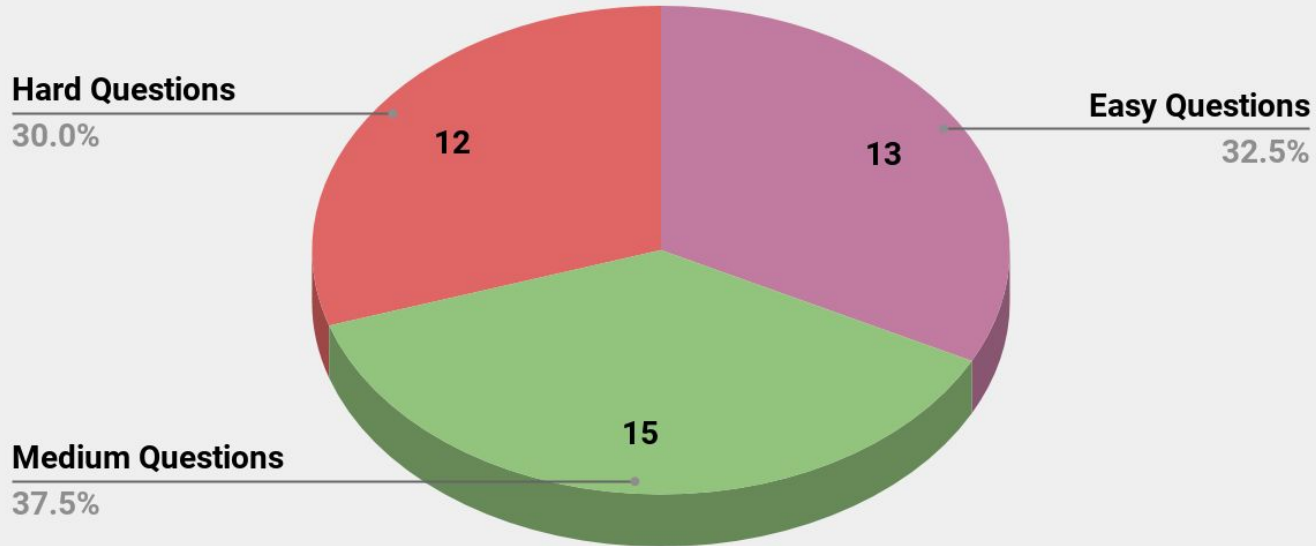
Subject	Class 11		Class 12		Total	
	No. of Questions	Total Marks	No. of Questions	Total Marks	Total Questions	Total Marks
Maths	17	51	23	69	40	120

<b>Topic wise Question Breakup in Maths</b>		
<b>Topics</b>	<b>No of Questions</b>	<b>Weightage of Marks</b>
<b>Algebra</b>	<b>3</b>	<b>750%</b>
Vector	3	750%
<b>Binomial Theorem</b>	<b>1</b>	<b>2.50%</b>
<b>Complex Numbers</b>	<b>1</b>	<b>2.50%</b>
<b>Coordinate Geometry</b>	<b>5</b>	<b>12.50%</b>
Circle	1	2.50%
Parabola	3	750%
Straight line	1	2.50%
<b>Coordinate Geometry (3-D)</b>	<b>1</b>	<b>2.50%</b>
<b>Differential Calculus</b>	<b>7</b>	<b>1750%</b>
Application of Derivatives	2	5.00%
Continuity & Derivability	2	5.00%
Functions	1	2.50%

<b>Topic wise Question Breakup in Maths</b>		
<b>Topics</b>	<b>No of Questions</b>	<b>Weightage of Marks</b>
Limit, Continuity & Differentiability	2	5.00%
<b>Integral Calculus</b>	<b>9</b>	<b>22.50%</b>
Definite integration	8	20.00%
Differential Equation	1	2.50%
<b>Matrix &amp; Determinants</b>	<b>2</b>	<b>5.00%</b>
<b>Permutation &amp; Combination</b>	<b>3</b>	<b>7.50%</b>
<b>Probability</b>	<b>3</b>	<b>7.50%</b>
<b>Quadratic Equation</b>	<b>1</b>	<b>2.50%</b>
<b>Sequence &amp; Series</b>	<b>1</b>	<b>2.50%</b>
<b>Trigonometry</b>	<b>3</b>	<b>7.50%</b>
Inverse Trigonometric function	1	2.50%
Solution of Triangle	1	2.50%
Trigonometric equation	1	2.50%

# JEE Advanced 2014 Paper Analysis: Maths Section

No of Questions and Difficulty Percentage



# Important Topics Asked in JEE Advanced 2014 Paper: Physics

- ❑ Capacitance
- ❑ Current Electricity
- ❑ Electromagnetic Field
- ❑ Electrostatics
- ❑ KTG & Thermodynamics
- ❑ Circular Motion
- ❑ Elasticity & Viscosity
- ❑ Fluid Mechanics & Properties of Matter
- ❑ Friction
- ❑ Rigid Body Dynamics
- ❑ Modern Physics
- ❑ Geometrical Optics & Physical Optics
- ❑ Sound Waves
- ❑ String Wave

# Chemistry

- ❑ Chemical Bonding
- ❑ p-block
- ❑ d-block & f-block Elements
- ❑ Metallurgy
- ❑ Qualitative Analysis
- ❑ Hydrocarbon
- ❑ Alkyl Halide, Alcohol & Ether (Reaction Mechanism)
- ❑ Aromatic Compounds
- ❑ Grignard Reagent, Reduction, Oxidation & Hydrolysis
- ❑ Stereoisomerism
- ❑ Gaseous State
- ❑ Mole Concept
- ❑ Thermodynamics and Thermochemistry
- ❑ Chemical Kinetics

# Maths

- ❑ Vector
- ❑ Binomial Theorem
- ❑ Complex Numbers
- ❑ Parabola
- ❑ Application of Derivatives
- ❑ Continuity & Derivability
- ❑ Limit, Continuity & Differentiability
- ❑ Definite integration
- ❑ Matrix & Determinants
- ❑ Permutation & Combination
- ❑ Probability
- ❑ Quadratic Equation
- ❑ Sequence & Series
- ❑ Trigonometry



# JEE Advanced 2014 Cutoff

Category	Minimum Percentage of Marks in Each Subject	Last Rank
CML	152	999
OBC (NCL)	117	5369
SC	74	3045
ST	63	1255
PwD	63	243
Preparatory	53	101
CML	152	999
OBC (NCL)	117	5369

# Thank You!

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