

# JEE MAIN

2016

## TOPIC WISE ANALYSIS



# JEE Main 2016 Paper

<b>Conducting Body</b>	<b>CBSE</b>
<b>Exam Date</b>	<b>3rd April, 2016</b>
<b>Exam Mode</b>	<b>Offline Test (Pen and Paper Based)</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 / 3 Sections</b>
<b>No. of Questions</b>	<b>30 from each section. Total 90 questions</b>
<b>Marks</b>	<b>120 marks per section. Total 360 Marks</b>
<b>Question Type</b>	<b>MCQs and single correct option.</b>
<b>For correct Answers</b>	<b>+4 marks</b>
<b>For incorrect Answers</b>	<b>1/4 marks of total marks per question</b>

# JEE Main 2016 Offline Paper: Distribution of Questions

In JEE Main 2016 Paper I the distribution of questions were as follows:

Subject	Class 11		Class 12		Total	
	No of Questions	Total Marks	No of Questions	Total Marks	No of Questions	Total Marks
Mathematics	15	60	15	60	30	120
Physics	13	52	17	68	30	120
Chemistry	12	48	18	72	30	120
Grand Total	40	160	50	200	90	360

# JEE Main 2016: Expert's Viewpoint

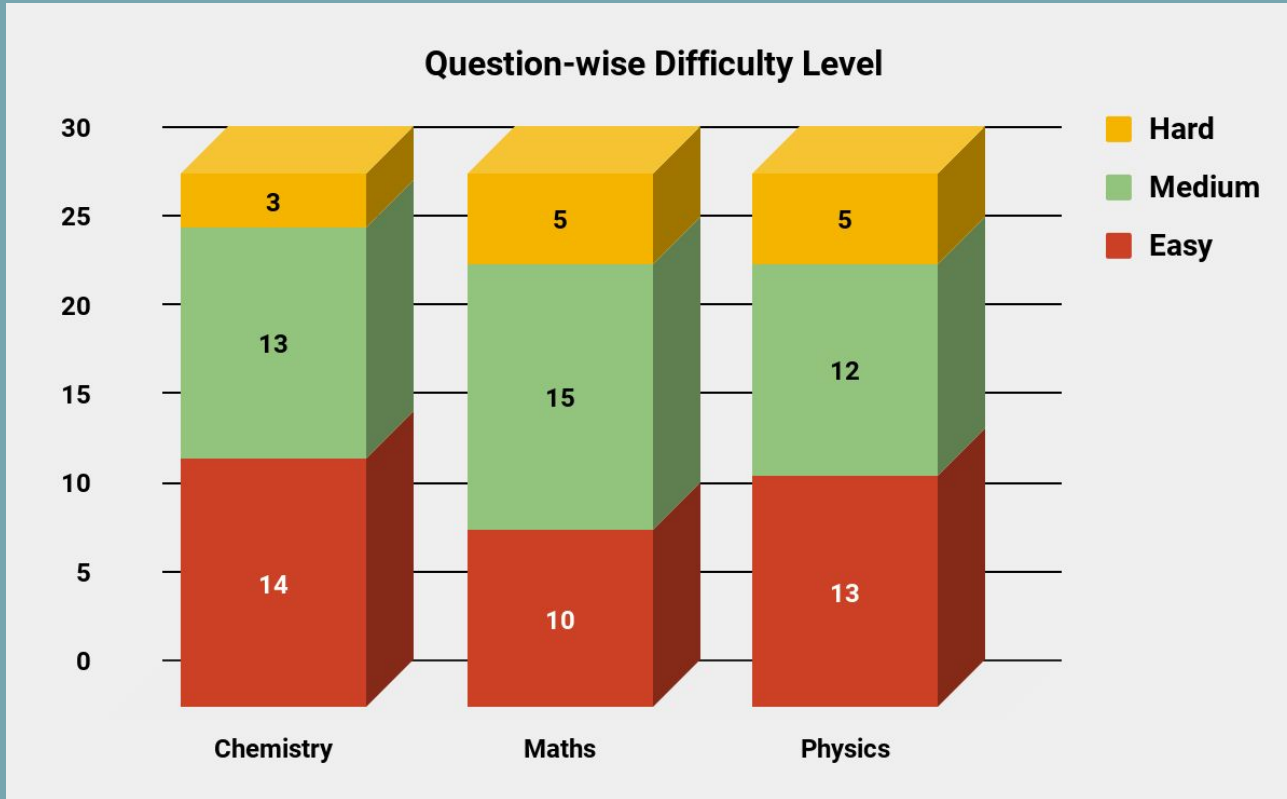
- As per the experts the overall difficulty level of paper I is as follows:

Subjects	Difficulty Level
Physics	Lengthy and required critical thinking. Few questions were difficult.
Chemistry	Was on the tougher side compared to previous year.
Maths	On a moderate level with few single concept questions.
Overall	Overall difficulty level was moderate but challenging if compared to 2015 JEE Main exam.

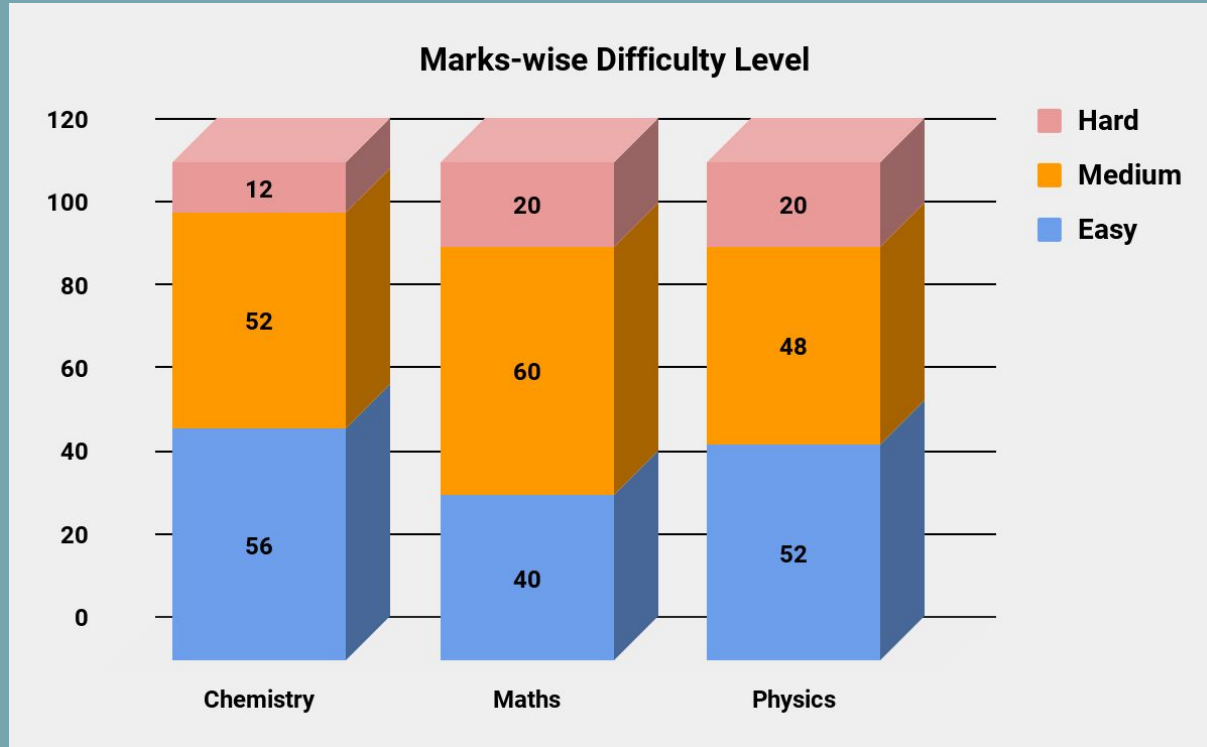
# JEE Main 2016 Overall Difficulty Analysis

Subject	Easy		Moderate		Tough	
	No. of Questions	Total Marks	No. of Questions	Total Marks	No. of Questions	Total Marks
Physics	13	52	12	48	5	20
Maths	10	40	15	60	5	20
Chemistry	14	56	13	52	3	12
Grand Total	37	148	40	160	13	52

# JEE Main 2016 Question-wise Difficulty Level



# JEE Main 2016 Marks-wise Difficulty Level



# JEE Main 2016 Paper I Analysis: Maths Section

- The questions were on a moderate level.
- Mathematics questions in 2016 paper were surprisingly easy compared to questions that were set last year.
- Some of the easy questions were set from topics such as Area, Circle, Logarithm, Progression Series, Hyperbola, etc.
- One question from Binomial theorem seemed to be fundamentally wrong.

Subject	Class 11		Class 12		Total	
	No. of Questions	Total Marks	No. of Questions	Total Marks	Total Questions	Total Marks
Maths	15	60	15	60	30	120

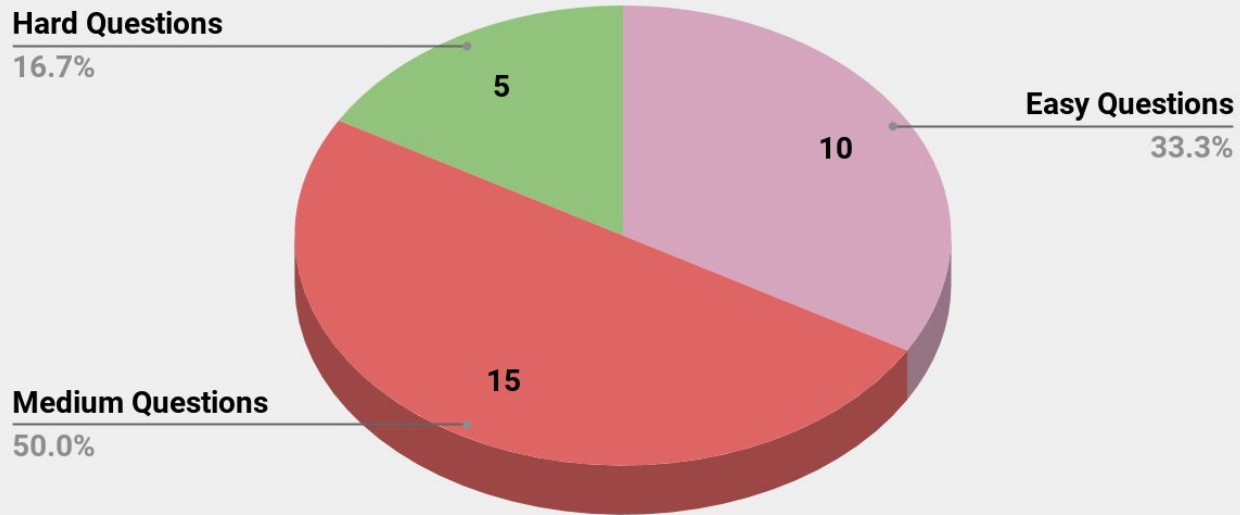


<b>Topic wise Question Breakup in Maths</b>		
<b>Topics</b>	<b>No of Questions</b>	<b>Weightage of Marks</b>
<b>Algebra</b>	<b>1</b>	<b>3.33%</b>
Vector	1	3.33%
<b>Binomial Theorem</b>	<b>1</b>	<b>3.33%</b>
Binomial Theorem	1	3.33%
<b>Complex Numbers</b>	<b>1</b>	<b>3.33%</b>
<b>Coordinate Geometry</b>	<b>5</b>	<b>16.67%</b>
Circle	2	6.67%
Hyperbola	1	3.33%
Parabola	1	3.33%
Straight line	1	3.33%
<b>Co-ordinate Geometry (3-D)</b>	<b>2</b>	<b>6.67%</b>
<b>Differential Calculus</b>	<b>5</b>	<b>16.67%</b>
Application of Derivatives	1	3.33%
Functions	1	3.33%
Limit, Continuity & Differentiability	1	3.33%
Methods of Differentiation	1	3.33%
Tangent & Normal	1	3.33%

<b>Topic wise Question Breakup in Maths</b>		
<b>Topics</b>	<b>No of Questions</b>	<b>Weightage of Marks</b>
<b>Integral Calculus</b>	<b>4</b>	<b>13.33%</b>
Area under curve	1	3.33%
Definite integration	1	3.33%
Differential equation	1	3.33%
indefinite integration	1	3.33%
<b>Mathematical Reasoning</b>	<b>1</b>	<b>3.33%</b>
<b>Matrix &amp; Determinants</b>	<b>2</b>	<b>6.67%</b>
<b>Permutation &amp; Combination</b>	<b>1</b>	<b>3.33%</b>
<b>Probability</b>	<b>1</b>	<b>3.33%</b>
<b>Quadratic Equation</b>	<b>1</b>	<b>3.33%</b>
<b>Sequence &amp; Series</b>	<b>2</b>	<b>6.67%</b>
<b>Statistics</b>	<b>1</b>	<b>3.33%</b>
<b>Trigonometry</b>	<b>2</b>	<b>6.67%</b>
Trigo. Ratio & identities	1	3.33%
Trigonometric Equation	1	3.33%

# JEE Main 2016 Paper Analysis: Maths Section

No of Questions and Difficulty Percentage



# JEE Main 2016 Paper I Analysis: Physics

- Physics section consisted of simple conceptual questions but lengthy in calculation.
- Questions were relatively simpler compared to 2015.
- Some questions were also very similar to previous year paper.
- Paper had few questions with more than one answer.

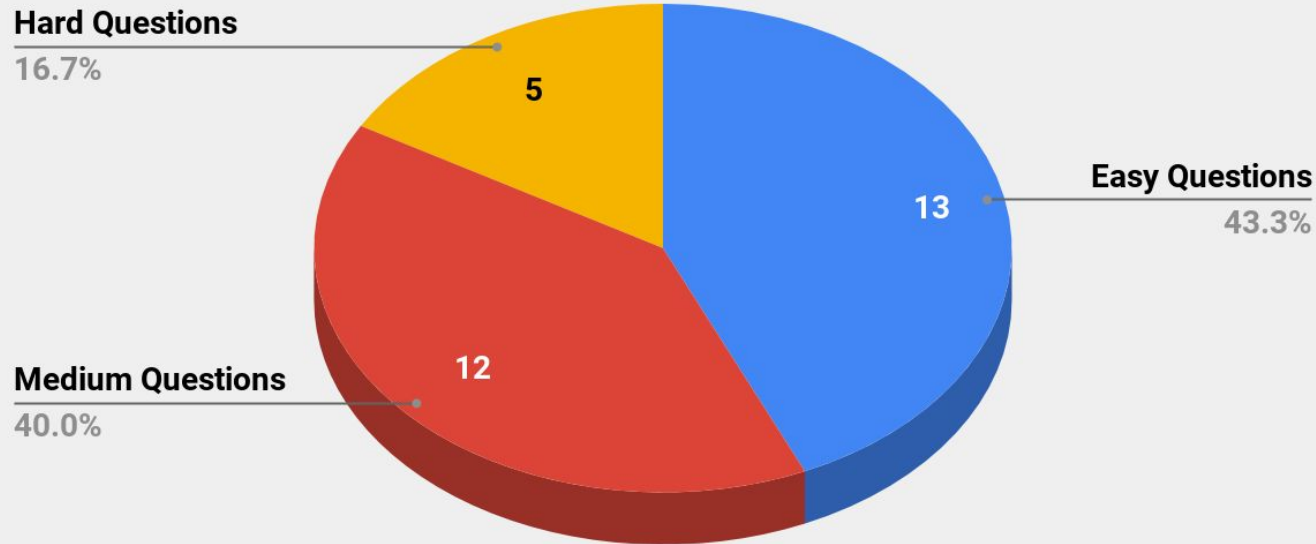
Subject	Class 11		Class 12		Total	
	No. of Questions	Total Marks	No. of Questions	Total Marks	Total Questions	Total Marks
Physics	13	52	17	68	30	120

<b>Topic wise Question Breakup in Physics</b>		
<b>Topics</b>	<b>No of Questions</b>	<b>Weightage of Marks</b>
<b>Electrodynamics</b>	<b>6</b>	<b>20.00%</b>
Alternating Current	1	3.33%
Capacitance	1	3.33%
Current Electricity	1	3.33%
Electromagnetic Field	2	6.67%
Electrostatics	1	3.33%
<b>Heat &amp; Thermodynamics</b>	<b>3</b>	<b>10.00%</b>
KTG & Thermodynamics	3	10.00%
<b>Mechanics</b>	<b>7</b>	<b>23.33%</b>
Error in Measurement	2	6.67%
Gravitation	1	3.33%
Rigid Body Dynamics	2	6.67%
Work, Power & Energy	2	6.67%

<b>Topic wise Question Breakup in Physics</b>		
<b>Topics</b>	<b>No of Questions</b>	<b>Weightage of Marks</b>
<b>Modern Physics</b>	<b>8</b>	<b>26.67%</b>
Electromagnetic waves & communication	2	6.67%
Modern Physics	2	6.67%
Semiconductors	4	13.33%
<b>Optics</b>	<b>3</b>	<b>10.00%</b>
Geometrical Optics & Physical Optics	2	6.67%
Wave Optics	1	3.33%
<b>SHM &amp; Waves</b>	<b>3</b>	<b>10.00%</b>
SHM	1	3.33%
Sound Waves	1	3.33%
String Wave	1	3.33%

# JEE Main 2016 Paper Analysis: Physics Section

No of Questions and Difficulty Percentage



# JEE Main 2016 Paper I Analysis: Chemistry

- Chemistry section was easy and scoring amongst the three.
- The questions from Organic Chemistry was a bit difficult and consisted of fact based questions.
- Few questions from Physical Chemistry seem to contain insufficient & incorrect data.
- Topics based on the NCERT syllabus.
- However, low scoring compared to previous year paper.

Subject	Class 11		Class 12		Total	
	No. of Questions	Total Marks	No. of Questions	Total Marks	Total Questions	Total Marks
Chemistry	12	48	18	72	30	120

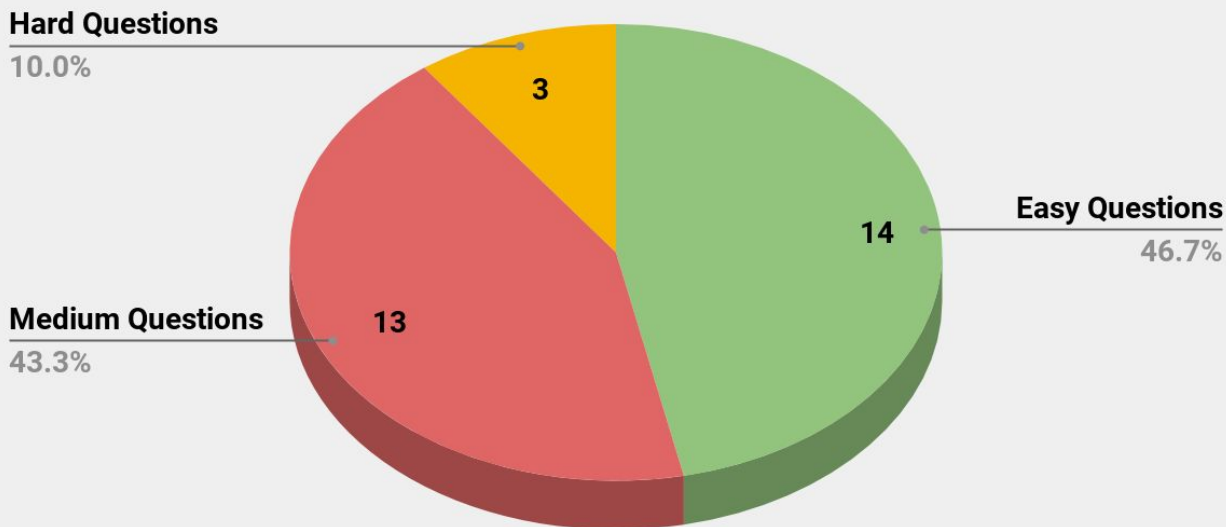


Topic wise Question Breakup in Chemistry		
Topics	No of Questions	Weightage of Marks
<b>Inorganic Chemistry-I</b>	<b>6</b>	<b>20.00%</b>
Chemical Bonding	2	6.67%
Hydrogen & Its Compounds	1	3.33%
p-block	1	3.33%
Periodic Table & Periodicity in Properties	1	3.33%
s-block	1	3.33%
<b>Inorganic Chemistry-II</b>	<b>6</b>	<b>20.00%</b>
Coordination Compounds	2	6.67%
d-block & f-block Elements	2	6.67%
Metallurgy	1	3.33%
Qualitative Analysis	1	3.33%
<b>Organic Chemistry-I</b>	<b>2</b>	<b>6.67%</b>
General Organic Chemistry- II	2	6.67%

<b>Topic wise Question Breakup in Chemistry</b>		
<b>Topics</b>	<b>No of Questions</b>	<b>Weightage of Marks</b>
<b>Organic Chemistry-II</b>	<b>8</b>	<b>26.67%</b>
biomolecules	1	3.33%
Carbohydrates, Amino Acids and Polymers	1	3.33%
Environmental Chemistry	1	3.33%
Hydrocarbon (Alkane, Alkene & Alkyne)	3	10.00%
Practical Organic Chemistry	2	6.67%
<b>Physical Chemistry-I</b>	<b>4</b>	<b>13.33%</b>
Atomic Structure & Nuclear Chemistry	1	3.33%
Chemical Equilibrium	1	3.33%
Gaseous State	1	3.33%
Thermodynamics and Thermochemistry	1	3.33%
<b>Physical Chemistry-II</b>	<b>4</b>	<b>13.33%</b>
Chemical Kinetics	1	3.33%
Solution & Colligative Properties	1	3.33%
Surface Chemistry	2	6.67%

# JEE Main 2016 Paper Analysis: Chemistry Section

No of Questions and Difficulty Percentage



# Important Topics Asked in JEE Main 2016 Paper: Physics

- ❑ Alternating Current
- ❑ Current Electricity
- ❑ Electromagnetic Field
- ❑ Electrostatics
- ❑ KTG & Thermodynamics
- ❑ Error in Measurement
- ❑ Rigid Body Dynamics
- ❑ Work, Power & Energy
- ❑ Electromagnetic waves & communication
- ❑ Modern Physics
- ❑ Semiconductors
- ❑ Geometrical Optics & Physical Optics
- ❑ Wave Optics
- ❑ SHM & Waves

# Chemistry

- ❑ Chemical Bonding
- ❑ Hydrogen & Its Compounds
- ❑ p-block
- ❑ s-block
- ❑ Coordination Compounds
- ❑ d-block & f-block Elements
- ❑ General Organic Chemistry- II
- ❑ Hydrocarbon (Alkane, Alkene & Alkyne)
- ❑ Practical Organic Chemistry
- ❑ Atomic Structure & Nuclear Chemistry
- ❑ Thermodynamics and Thermochemistry
- ❑ Surface Chemistry

# Maths

- ❑ Vector
- ❑ Binomial Theorem
- ❑ Complex Numbers
- ❑ Circle
- ❑ Hyperbola
- ❑ Co-ordinate Geometry (3-D)
- ❑ Limit, Continuity & Differentiability
- ❑ Differential equation
- ❑ Matrices & Determinants
- ❑ Permutation & Combination
- ❑ Probability
- ❑ Quadratic Equation
- ❑ Sequence & Series
- ❑ Trigonometric Ratio & identities

# JEE Main 2016 Cutoff

Category	Cut Off
General	100
OBC	70
SC	52
ST	48

# Thank You!

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