

# JEE (Main) 2016

## A Detailed Analysis by Resonance

On 3-April-2016, JEE (Main) 2016 was conducted for students opting to take this exam by offline mode. This is the fourth edition of this Exam after wide ranging changes were introduced in year 2013 by CBSE and Ministry of HRD. Around 12 Lakh students are slated to appear for this exam in offline and online modes.

JEE (Main) 2016 was conducted in two parts (Paper 1 and Paper 2). Paper 1 was conducted from 9:30 am to 12:30 pm and Paper 2 for B. Arch. Aspirants was conducted from 2 pm to 5 pm.

Paper 1 was for students applying for engineering seats in engineering colleges, while paper 2 was for students applying for B. Arch degrees

The analysis below pertains to only Paper 1, which was for engineering aspirants.

### OVERALL MARKS DISTRIBUTION

The paper pattern was same as last year. The paper had 90 questions each worth 4 marks. All questions were objective type with single correct option. Subject wise each subject had 30 questions of 120 marks.

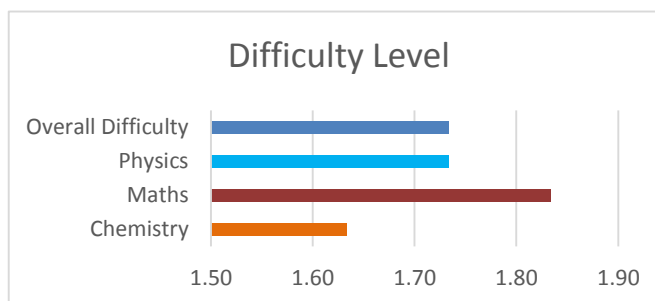
Subject	XI		XII		Total Count of Question No.	Total Sum of Marks
	Number of Questions	Sum of Marks	Number of Questions	Sum of Marks		
Chemistry	15	60	15	60	30	120
Mathematics	17	68	13	52	30	120
Physics	13	56	16	64	30	120
<b>Grand Total</b>	<b>46</b>	<b>184</b>	<b>44</b>	<b>176</b>	<b>90</b>	<b>360</b>

## OVERALL DIFFICULTY LEVEL ANALYSIS

In this analysis we have rated every question on a scale of 1 to 3. The ratings are done by expert faculty of Resonance. The individual ratings are then averaged to calculate overall difficulty level.

- 1: Easy
- 2: Moderate
- 3: Difficult

Subject	Difficulty Level
Chemistry	1.63
Mathematics	1.83
Physics	1.73
<b>Overall Average</b>	<b>1.73</b>



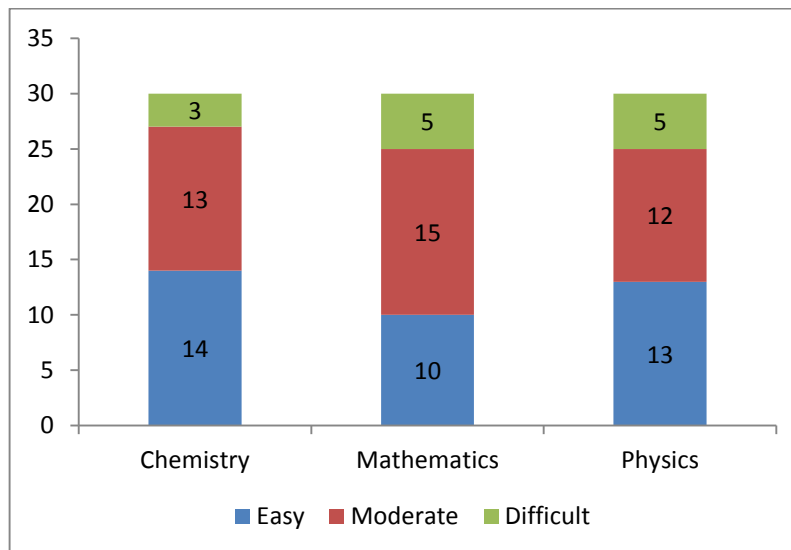
## Difficulty Level Analysis: No of Questions

Subject	Easy Level		Medium Level		Difficult Level	
	No of Questions	Total Marks	No of Questions	Total Marks	No of Questions	Total Marks
Chemistry	14	56	13	52	3	12
Mathematics	10	40	15	60	5	20
Physics	13	52	12	48	5	20
<b>Grand Total</b>	<b>37</b>	<b>148</b>	<b>40</b>	<b>160</b>	<b>12</b>	<b>52</b>

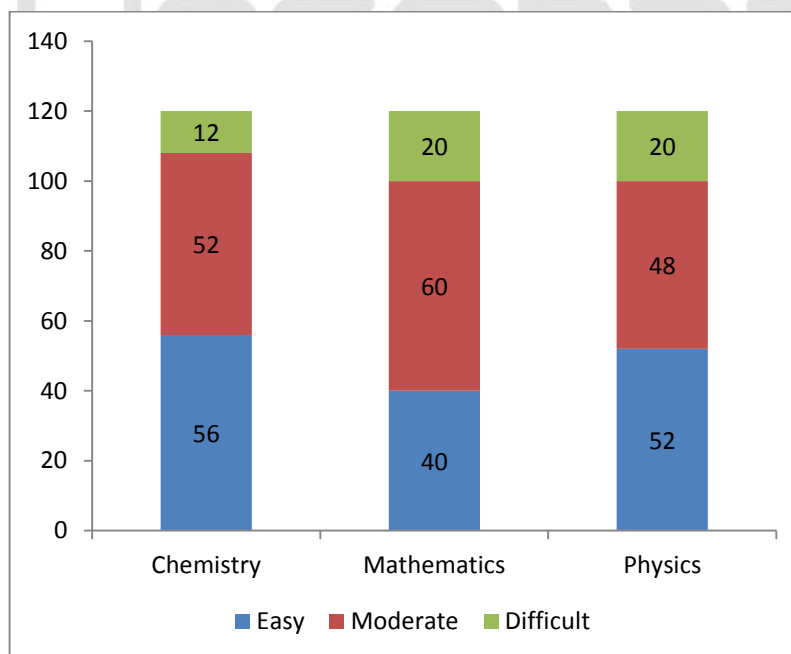
Resonance experts feel that all subjects were of similar difficulty level, while mathematics was on tougher side compared with chemistry & physics. While around 148 Marks can be considered easy overall, 160 marks are relatively difficulty and 52 marks are considered difficult by Resonance Team.

Overall, it is felt that while paper is moderate, the cut-off would decrease because of increase in number of seats from 1,50,000 to 2,00,000.

## Question Wise Difficulty Breakup



## Marks Wise Difficulty Breakup



## PHYSICS ANALYSIS

UNIT & TOPIC NAME	NO OF QUESTION	TOTAL MARKS	% WEIGHTAGE
<b>Physics</b>	<b>30</b>	<b>120</b>	<b>100.00%</b>
<b>Electrodynamics</b>	<b>6</b>	<b>24</b>	<b>20.00%</b>
Alternating Current	1	4	3.33%
Capacitance	1	4	3.33%
Current Electricity	1	4	3.33%
Electro Magnetic Field	2	8	6.67%
Electrostatics	1	4	3.33%
<b>Heat &amp; Thermodynamics</b>	<b>3</b>	<b>12</b>	<b>10.00%</b>
KTG & Thermodynamics	3	12	10.00%
<b>Mechanics</b>	<b>7</b>	<b>28</b>	<b>23.33%</b>
Error in Measurement	2	8	6.67%
Gravitation	1	4	3.33%
Rigid Body Dynamics	2	8	6.67%
Work, Power & Energy	2	8	6.67%
<b>Modern Physics</b>	<b>8</b>	<b>32</b>	<b>26.67%</b>
Electromagnetic waves & communication	2	8	6.67%
Modern Physics	2	8	6.67%
Semiconductors	4	16	13.33%
<b>Optics</b>	<b>3</b>	<b>12</b>	<b>10.00%</b>
Geometrical Optics & Physical Optics	2	8	6.67%
Wave Optics	1	4	3.33%
<b>SHM &amp; Waves</b>	<b>3</b>	<b>12</b>	<b>10.00%</b>
SHM	1	4	3.33%
Sound Waves	1	4	3.33%
String Wave	1	4	3.33%
<b>Grand Total</b>	<b>30</b>	<b>120</b>	<b>100.00%</b>

## CHEMISTRY ANALYSIS

UNIT & TOPIC NAME	NO OF QUESTION	TOTAL MARKS	% WEIGHTAGE
<b>Chemistry</b>	<b>30</b>	<b>120</b>	<b>100.00%</b>
<b>Inorganic Chemistry-I</b>	<b>6</b>	<b>24</b>	<b>20.00%</b>
Chemical Bonding	2	8	6.67%
Hydrogen & Its Compounds	1	4	3.33%
p-block	1	4	3.33%
Periodic Table & Periodicity in Properties	1	4	3.33%
s-block	1	4	3.33%

<b>Inorganic Chemistry-II</b>	<b>6</b>	<b>24</b>	<b>20.00%</b>
Coordination Compounds	2	8	6.67%
d-block & f-block Elements	2	8	6.67%
Metallurgy	1	4	3.33%
Qualitative Analysis	1	4	3.33%
<b>Organic Chemistry-I</b>	<b>2</b>	<b>8</b>	<b>6.67%</b>
General Organic Chemistry- II	2	8	6.67%
<b>Organic Chemistry-II</b>	<b>8</b>	<b>32</b>	<b>26.67%</b>
biomolecules	1	4	3.33%
Carbohydrates, Amino Acids and Polymers	1	4	3.33%
Environmental Chemistry	1	4	3.33%
Hydrocarbon (Alkane, Alkene & Alkyne)	3	12	10.00%
Practical Organic Chemistry	2	8	6.67%
<b>Physical Chemistry-I</b>	<b>4</b>	<b>16</b>	<b>13.33%</b>
Atomic Structure & Nuclear Chemistry	1	4	3.33%
Chemical Equilibrium	1	4	3.33%
Gaseous State	1	4	3.33%
Thermodynamics and Thermochemistry	1	4	3.33%
<b>Physical Chemistry-II</b>	<b>4</b>	<b>16</b>	<b>13.33%</b>
Chemical Kinetics	1	4	3.33%
Solution & Colligative Properties	1	4	3.33%
Surface Chemistry	2	8	6.67%
<b>Grand Total</b>	<b>30</b>	<b>120</b>	<b>100.00%</b>

## MATHEMATICS ANALYSIS

UNIT & TOPIC NAME	NO OF QUESTION	TOTAL MARKS	% WEIGHTAGE
<b>Mathematics</b>	<b>30</b>	<b>120</b>	<b>100.00%</b>
<b>Algebra</b>	<b>1</b>	<b>4</b>	<b>3.33%</b>
Vector	1	4	3.33%
<b>Binomial Theorem</b>	<b>1</b>	<b>4</b>	<b>3.33%</b>
Binomial Theorem	1	4	3.33%
<b>Complex Numbers</b>	<b>1</b>	<b>4</b>	<b>3.33%</b>
Complex Numbers	1	4	3.33%
<b>Coordinate Geometry</b>	<b>5</b>	<b>20</b>	<b>16.67%</b>
Circle	2	8	6.67%
Hyperbola	1	4	3.33%
Parabola	1	4	3.33%
Straight line	1	4	3.33%

<b>Co-ordinate Geometry (3-D)</b>	<b>2</b>	<b>8</b>	<b>6.67%</b>
Co-ordinate Geometry (3-D)	2	8	6.67%
<b>Differential Calculus</b>	<b>5</b>	<b>20</b>	<b>16.67%</b>
Application of Derivatives	1	4	3.33%
Functions	1	4	3.33%
Limit, Continuity & Differentiability	1	4	3.33%
Methods of Differentiation	1	4	3.33%
Tangent & Normal	1	4	3.33%
<b>Integral Calculus</b>	<b>4</b>	<b>16</b>	<b>13.33%</b>
area under curve	1	4	3.33%
Definite integration	1	4	3.33%
Differential equation	1	4	3.33%
indefinite integration	1	4	3.33%
<b>Mathematical Reasoning</b>	<b>1</b>	<b>4</b>	<b>3.33%</b>
Mathematical Reasoning	1	4	3.33%
<b>Matrix &amp; Determinants</b>	<b>2</b>	<b>8</b>	<b>6.67%</b>
Matrices & Determinants	2	8	6.67%
<b>Permutation &amp; Combination</b>	<b>1</b>	<b>4</b>	<b>3.33%</b>
Permutation & Combination	1	4	3.33%
<b>Probability</b>	<b>1</b>	<b>4</b>	<b>3.33%</b>
Probability	1	4	3.33%
<b>Quadratic Equation</b>	<b>1</b>	<b>4</b>	<b>3.33%</b>
Quadratic Equation	1	4	3.33%
<b>Sequence &amp; Series</b>	<b>2</b>	<b>8</b>	<b>6.67%</b>
Sequence & Series	2	8	6.67%
<b>Statistics</b>	<b>1</b>	<b>4</b>	<b>3.33%</b>
Statistics	1	4	3.33%
<b>Trigonometry</b>	<b>2</b>	<b>8</b>	<b>6.67%</b>
Trigo. Ratio & identities	1	4	3.33%
Trigonometric Equation	1	4	3.33%
<b>Grand Total</b>	<b>30</b>	<b>120</b>	<b>100.00%</b>

## EXPECTED CUTOFF

### JEE (Main) 2016: Tentative# Cutoff Table for JEE (Advanced) 2016

Category	% Reservation	Total Seats	Cut-off Marks*	% Cutoff
General	50.5%	1,01,000	99	27.49%
OBC	27.0%	54,000	64	17.84%
SC	15.0%	30,000	43	11.99%
ST	7.5%	15,000	37	10.24%
<b>Total</b>	<b>100.0%</b>	<b>2,00,000</b>		

JEE (Main) 2016: Maximum Marks

360

\* For Qualification in JEE (Advanced) if student is also in Top-20% or minimum of 75% marks in class-12

# The Cut-off of JEE (Main) 2016 for JEE (Advanced) 2016 is estimated on the basis of Previous Year Data and Toughness Analysis of JEE (Main) 2016 Paper by Resonance Experts. These are not official data released by Authorities concerned.



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