

# JEE (Main) 2017

## A Detailed Analysis by Resonance

On 2-April-2017, JEE (Main) 2017 was conducted for students opting to take this exam by offline mode. This is the fifth 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) 2017 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	Sum of Marks	XII	Sum of Marks	Total Count of Question No.	Total Sum of Marks
	Number of Questions		Number of Questions			
Chemistry	14	56	16	64	30	120
Mathematics	13	60	17	60	30	120
Physics	13	52	17	68	30	120
<b>Grand Total</b>	<b>40</b>	<b>160</b>	<b>50</b>	<b>200</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	1.73
Mathematics	2.03
Physics	1.2
<b>Overall Average</b>	<b>1.65</b>



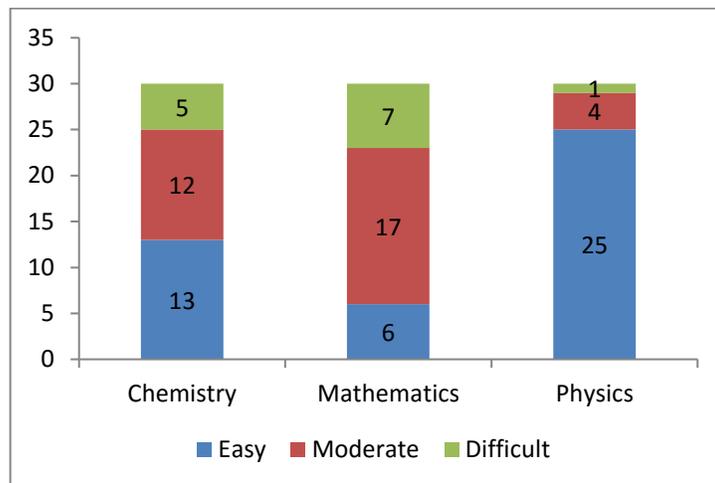
## Difficulty Level Analysis: No of Questions

Subject	Easy Level		Medium Level		Difficult Level	
	No of Questions	Total Marks	No of Questions	Total Marks	No of Questions	Total Marks
<b>Chemistry</b>	13	52	12	48	5	20
<b>Mathematics</b>	6	24	17	68	7	28
<b>Physics</b>	25	100	4	16	1	4
<b>Grand Total</b>	<b>44</b>	<b>176</b>	<b>33</b>	<b>132</b>	<b>13</b>	<b>52</b>

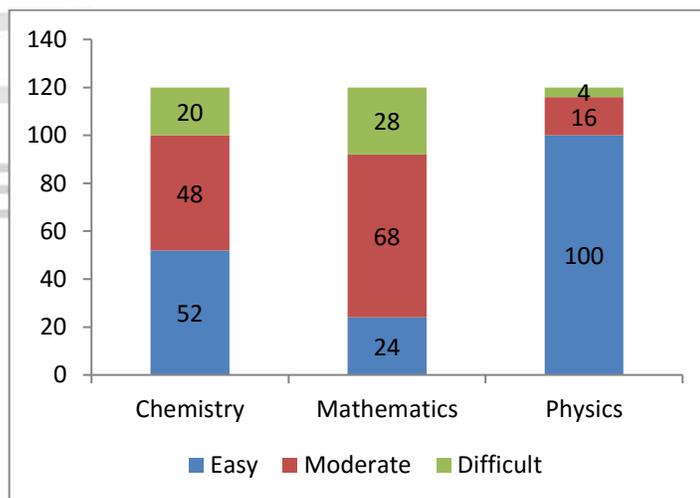
Resonance experts feel that subjects were of varied difficulty in which mathematics was on tougher side compared with chemistry & physics. While around 176 Marks can be considered easy overall, 132 marks are relatively difficulty and 52 marks are considered difficult by Resonance Team.

Overall, it is felt that while paper is slightly easier than last year. The cut-off should slightly increase from last year in all categories.

## 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>
Electrodynamics	8	32	26.67%
Capacitance	2	8	6.67%
Current Electricity	3	12	10.00%
Electro Magnetic Field	1	4	3.33%
Electro Magnetic Induction	1	4	3.33%
Electrostatics	1	4	3.33%
Heat & Thermodynamics	4	16	13.33%
Calorimetry & Thermal Expansion	2	8	6.67%
KTG & Thermodynamics	2	8	6.67%
Mechanics	8	32	26.67%
Elasticity & Viscosity	1	4	3.33%
Gravitation	1	4	3.33%
Rectilinear Motion & Vectors	1	4	3.33%
Rigid Body Dynamics	2	8	6.67%
Surface Tension	1	4	3.33%
Work, Power & Energy	2	8	6.67%
Modern Physics	5	20	16.67%
Modern Physics	3	12	10.00%
Nuclear Physics	1	4	3.33%
Semiconductors	1	4	3.33%
Optics	2	8	6.67%
Geometrical Optics & Physical Optics	1	4	3.33%
Wave Optics	1	4	3.33%
SHM & Waves	3	12	10.00%
Principle of Communication	1	4	3.33%
SHM	1	4	3.33%
Sound Waves	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>
Inorganic Chemistry-I	5	20	16.67%
Chemical Bonding	2	8	6.67%
Periodic Table & Periodicity in Properties	1	4	3.33%
S-Block	2	8	6.67%
Inorganic Chemistry-II	2	8	6.67%
Coordination Compounds	1	4	3.33%
Qualitative Analysis	1	4	3.33%
Organic Chemistry-I	1	4	3.33%
General Organic Chemistry-I	1	4	3.33%
Organic Chemistry-II	10	40	33.33%
Alkyl Halide, Alcohol & Ether (Reaction Mechanism)	4	16	13.33%
Aromatic Compounds	1	4	3.33%
Biomolecules	1	4	3.33%
Carbohydrates, Amino Acids and Polymers	1	4	3.33%
Carbonyl Compounds	1	4	3.33%
Environmental chemistry	1	4	3.33%
Grignard Reagent, Reduction, Oxidation & Hydrolysis	1	4	3.33%
Physical Chemistry-I	7	28	23.33%
Atomic Structure & Nuclear Chemistry	1	4	3.33%
Ionic Equilibrium	1	4	3.33%
Mole Concept	3	12	10.00%
Thermodynamics and Thermochemistry	2	8	6.67%
Physical Chemistry-II	5	20	16.67%
Chemical Kinetics	1	4	3.33%
Electrochemistry	1	4	3.33%
Solid State	1	4	3.33%
Solution & Colligative Properties	1	4	3.33%
Surface Chemistry	1	4	3.33%
<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>
Algebra	1	4	3.33%
Vector	1	4	3.33%
Binomial Theorem	1	4	3.33%
Binomial Theorem	1	4	3.33%
Complex Numbers	1	4	3.33%
Complex Numbers	1	4	3.33%
Coordinate Geometry	3	12	10.00%
Ellipse	1	4	3.33%
Hyperbola	1	4	3.33%
Straight Line	1	4	3.33%
Co-ordinate Geometry (3-D)	2	8	6.67%
Co-ordinate Geometry (3-D)	2	8	6.67%
Differential Calculus	7	28	23.33%
Application of Derivatives	2	8	6.67%
Functions	2	8	6.67%
Limit, Continuity & Differentiability	1	4	3.33%
Methods of Differentiation	1	4	3.33%
Tangent & Normal	1	4	3.33%
Integral Calculus	4	16	13.33%
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%
Mathematical Reasoning	1	4	3.33%
Mathematical Reasoning	1	4	3.33%
Matrix & Determinants	2	8	6.67%
Matrices & Determinants	2	8	6.67%
Permutation & Combination	1	4	3.33%
Permutation & Combination	1	4	3.33%
Probability	2	8	6.67%
Probability	2	8	6.67%
Quadratic Equation	1	4	3.33%
Quadratic Equation	1	4	3.33%
Sequence & Series	1	4	3.33%
Sequence & Series	1	4	3.33%
Statistics	1	4	3.33%

Statistics	1	4	3.33%
Trigonometry	2	8	6.67%
Trigonometric equation	1	4	3.33%
Trigonometric Ratio & identities	1	4	3.33%
Grand Total	30	120	100.00%

## EXPECTED CUTOFF

<b>JEE (Main) 2017: Tentative# Cutoff Table for JEE (Advanced) 2017</b>				
Category	% Reservation	Total Seats	Cut-off Marks*	% Cutoff
General	50.5%	111100	96	26.67%
OBC	27.0%	59400	68	19.44%
SC	15.0%	33000	50	14.44%
ST	7.5%	16500	47	13.33%
<b>Total</b>	<b>100.0%</b>	<b>2,20,000</b>		
<b>JEE (Main) 2017: Maximum Marks</b>				360
<b>* For Qualification in JEE (Advanced) if student is also in Top-20% or minimum of 75% marks in class-12</b>				
<b># The Cut-off of JEE (Main) 2017 for JEE (Advanced) 2017 is estimated on the basis of Previous Year Data and Toughness Analysis of JEE (Main) 2017 Paper by Resonance Experts. These are not official data released by Authorities concerned.</b>				

## APPENDIX

<b>Comparison Between 2015, 2016 and 2017 JEE (Main) Paper</b>			
<b>Number of Students</b>			
	2015	2016	2017
<b>Number of Students</b>	Around 13 Lakhs	Around 12 Lakhs	Around 12 Lakhs
<b>Number of Students eligible for JEE Advanced</b>			
	2015	2016	2017
<b>Number of Students</b>	150000	200000	220000
<b>Difficulty Level</b>			
	2015	2016	2017
<b>Chemistry</b>	1.73	1.63	1.73
<b>Mathematics</b>	1.73	1.83	2.03
<b>Physics</b>	1.9	1.6	1.2
<b>Overall Difficulty</b>	1.79	1.69	1.65
<b>Cutoff</b>			
	2015	2016	2017
<b>GEN</b>	105	100	96
<b>OBC</b>	70	70	68
<b>SC</b>	50	52	50
<b>ST</b>	44	48	47
<b>Weightage of Class XI and XII in JEE Main</b>			
	2015	2016	2017
<b>XI</b>	43.33%	51.11%	44.40%
<b>XII</b>	56.67%	48.89%	55.60%