

# JEE (Advanced) 2017

## A Detailed Analysis by Resonance

After introducing major changes in IIT Admission Process in 2013, on 21-May-2017 (Sunday) JEE Advanced 2017, stage-2 for IIT Admission Process was conducted by IIT Madras. Top 2.2 Lakh students were eligible through marks in JEE Main 2017, out of which 1.7 Lakh students have filled the JEE Advanced Exam form.

As earlier IIT-JEE Examinations, JEE (Advanced) 2017 was conducted in two parts (Paper 1 & Paper 2) by IIT Madras. Paper 1 was conducted from 9 AM to 12 PM and Paper 2 was conducted from 2 PM to 5 PM.

Only candidates who appear in both Paper 1 and Paper 2 will be considered for ranking. Results will be declared on Sunday, June 11, 2017 10:00 IST. Category-wise All India Ranks (AIR) of successful candidates will be available on the online portal after the results are declared. The text messages will be sent to the candidates to their registered mobile numbers.

The seats across IITs, NITs, IIITs and other Govt. Funded Technical Institutes (GFTIs) will be allocated by the Joint Seat Allocation Authority (JoSAA). All the candidates who are eligible for admission will have to participate in the joint seat allocation process by filling in their choices of the courses. The detailed instructions for filling-in the choices and the seat allotment procedure will be made available by JoSAA through Seat Allotment Brochure. <sup>[SEP]</sup>

### BRIEF QUANTITATIVE ANALYSIS

Following is the brief pattern description of both the papers of JEE (Advanced) 2017.

#### Question Pattern for Each Subject in Paper 1

	Matrix Match SCQ	One or More Correct Option Correct	Single Digit Integer	Total
Questions/Subject	6	7	5	18
Marks / Question	3	4	3	N.A
Partial Marking	0	1*	0	N.A
Negative Marking	-1	-2	0	N.A
Marks/Subject	18	28	15	61
Total Questions	18	21	15	54
Total Marks	54	84	45	183

\* FOR DARKENING A BUBBLE CORRESPONDING TO EACH CORRECT QUESTION PROVIDED NO INCORRECT OPTION IS DARKENED.

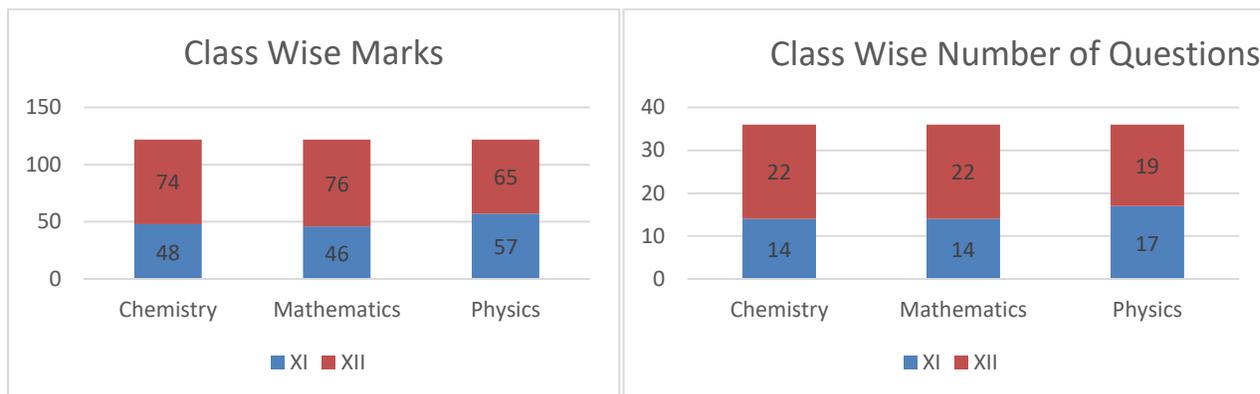
### Question Pattern for Each Subject in Paper 2

	SCQ	One or More Correct Option Correct	Comprehension MCQ	Total
Questions/Subject	7	7	4	18
Marks / Question	3	4	3	N.A
Partial Marking	0	1*	0	N.A
Negative Marking	-1	-2	0	N.A
Marks/Subject	21	28	12	61
Total Questions	21	21	12	54
Total Marks	63	84	36	183

### OVERALL MARKS DISTRIBUTION

In Paper I & II both, Total 54 Questions were asked. 18 Questions from each subject were asked. Both papers were of 183 marks. Each subject was of 122 marks overall. Total marks for both paper combined were 366. Total 151 marks questions were from class 11th syllabus and 215 marks questions were from class 12th syllabus.

Subject	Paper	No of Questions		Marks		Percentage (Marks Wise)	
		11 <sup>th</sup>	12 <sup>th</sup>	11 <sup>th</sup>	12 <sup>th</sup>	11 <sup>th</sup>	12 <sup>th</sup>
Chemistry	Paper 1	9	9	30	31	49%	51%
	Paper 2	5	13	18	43	30%	70%
	<b>Total</b>	<b>14</b>	<b>22</b>	<b>48</b>	<b>74</b>	<b>39%</b>	<b>61%</b>
Mathematics	Paper 1	9	9	30	31	49%	51%
	Paper 2	5	13	16	45	26%	74%
	<b>Total</b>	<b>14</b>	<b>22</b>	<b>46</b>	<b>76</b>	<b>38%</b>	<b>62%</b>
Physics	Paper 1	9	9	31	30	51%	49%
	Paper 2	8	10	26	35	43%	57%
	<b>Total</b>	<b>17</b>	<b>19</b>	<b>57</b>	<b>65</b>	<b>47%</b>	<b>53%</b>
Total	<b>Paper 1</b>	<b>27</b>	<b>27</b>	<b>91</b>	<b>92</b>	<b>50%</b>	<b>50%</b>
	<b>Paper 2</b>	<b>18</b>	<b>36</b>	<b>60</b>	<b>123</b>	<b>33%</b>	<b>67%</b>
	<b>Total</b>	<b>45</b>	<b>63</b>	<b>151</b>	<b>215</b>	<b>41%</b>	<b>59%</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 faculties of Resonance. The individual ratings are then averaged to calculate overall difficulty level.

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

Subject	Paper 1	Paper 2	Total
Chemistry	2.30	2.20	2.25
Mathematics	1.72	1.95	1.84
Physics	1.38	2.05	1.71
Total	1.80	2.07	1.93

#### Difficulty Level Analysis: No of Questions

Subject	Easy	Moderate	Difficult	Total
Chemistry	9	10	17	36
Mathematics	12	18	6	36
Physics	16	15	5	36
Total	37	43	28	108

#### Difficulty Level Analysis: Marks Allocation

Subject	Easy	Moderate	Difficult	Total
Chemistry	28	36	58	122
Mathematics	42	58	22	122
Physics	52	53	17	122
Total	122	147	97	366

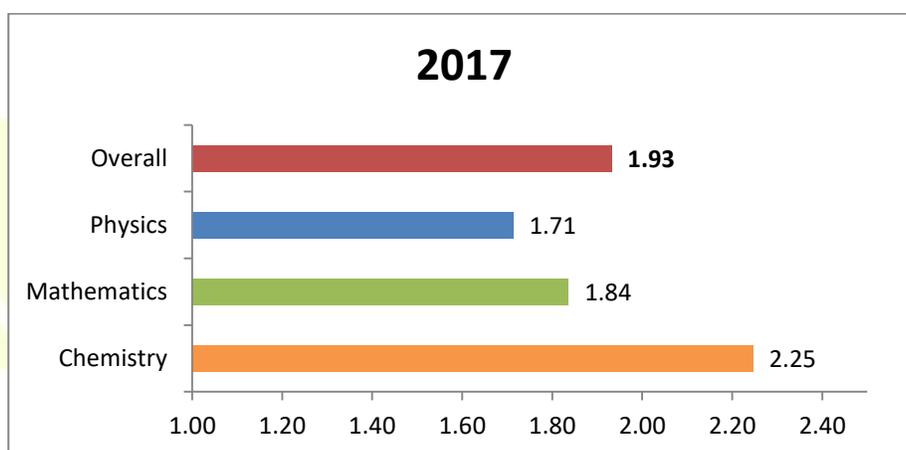
In paper I, Physics and Mathematics were easy compared to Chemistry. Mathematics and Physics paper was moderately easy, Chemistry was considered difficult.

In paper II, Resonance experts considered Chemistry difficult. Due to lengthy and calculation intensive nature of the problems in Physics paper, it was considered between medium to difficult. Mathematics paper was relatively easier of the three subjects.

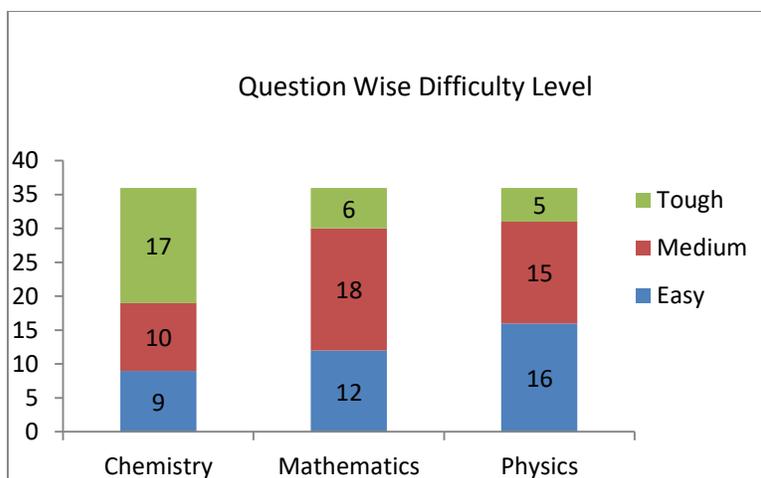
Overall, Resonance experts feel that the paper was relatively easy than the last year. While Chemistry was overall most difficult, Mathematics was considered moderate overall while Physics was relatively easier than the other two subjects. In total, easy questions comprised of 122 marks, moderate questions comprised of 147 marks and difficult questions comprised of 97 marks.

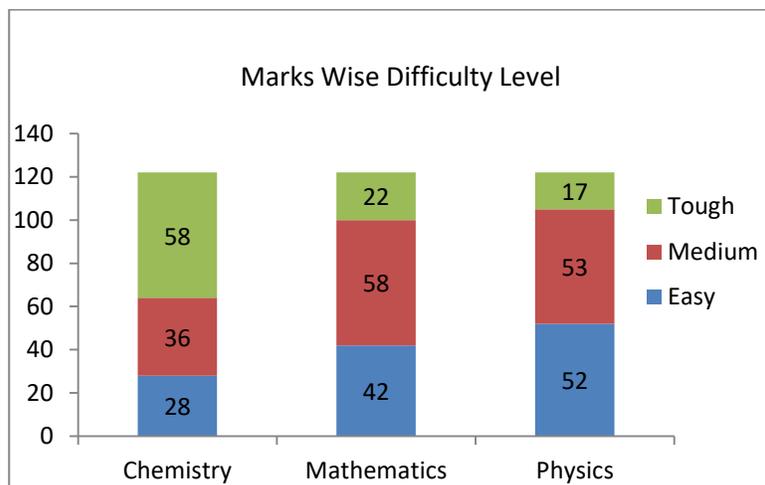
As the paper was relatively easy than last year, students are expected to score high this year.

### Overall Difficulty



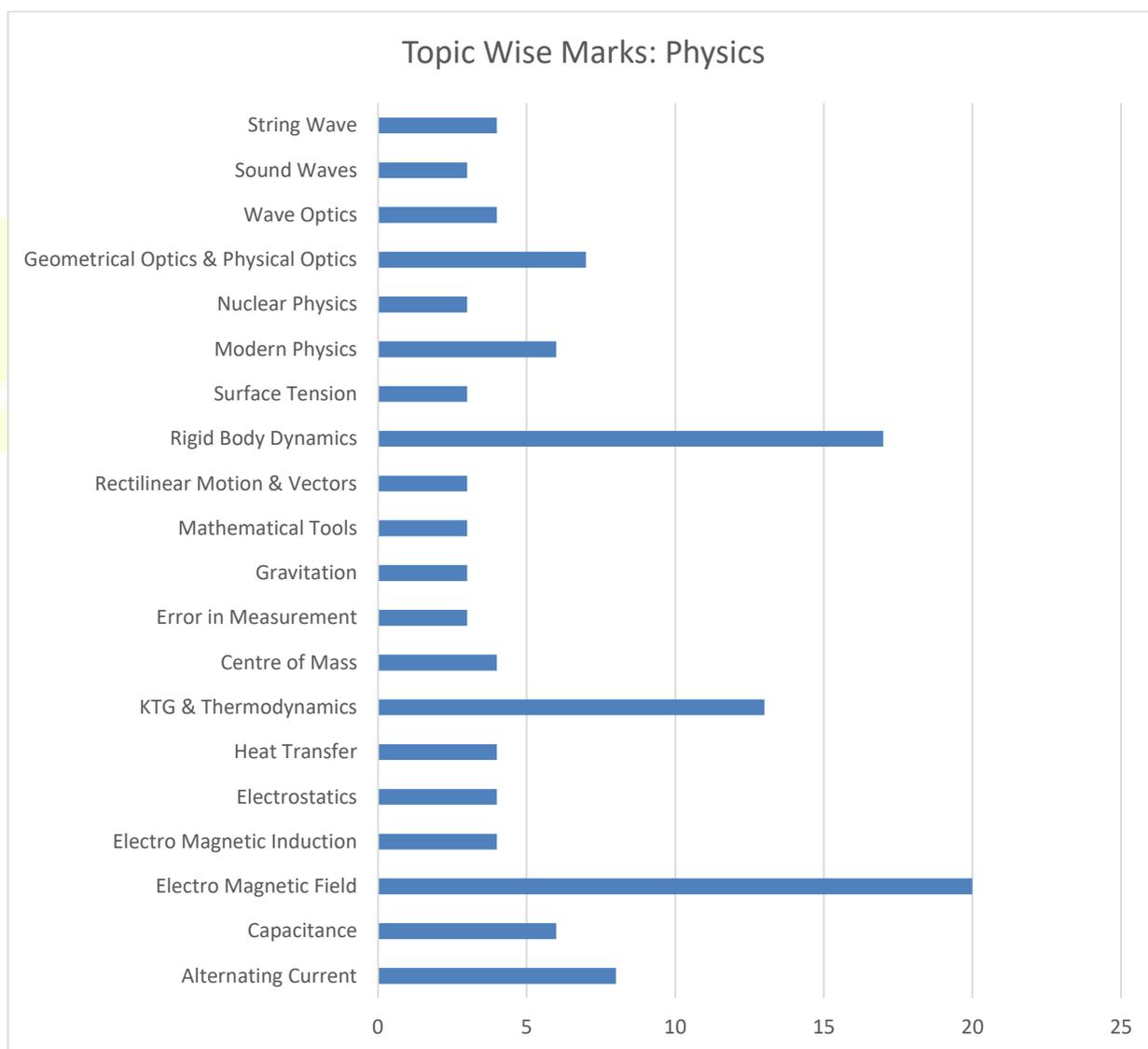
### Question Wise Difficulty Breakup



**Mark Wise Difficulty Breakup**

**SUBJECT WISE ANALYSIS**
**PHYSICS ANALYSIS**
**Topic wise Allocation of Marks**

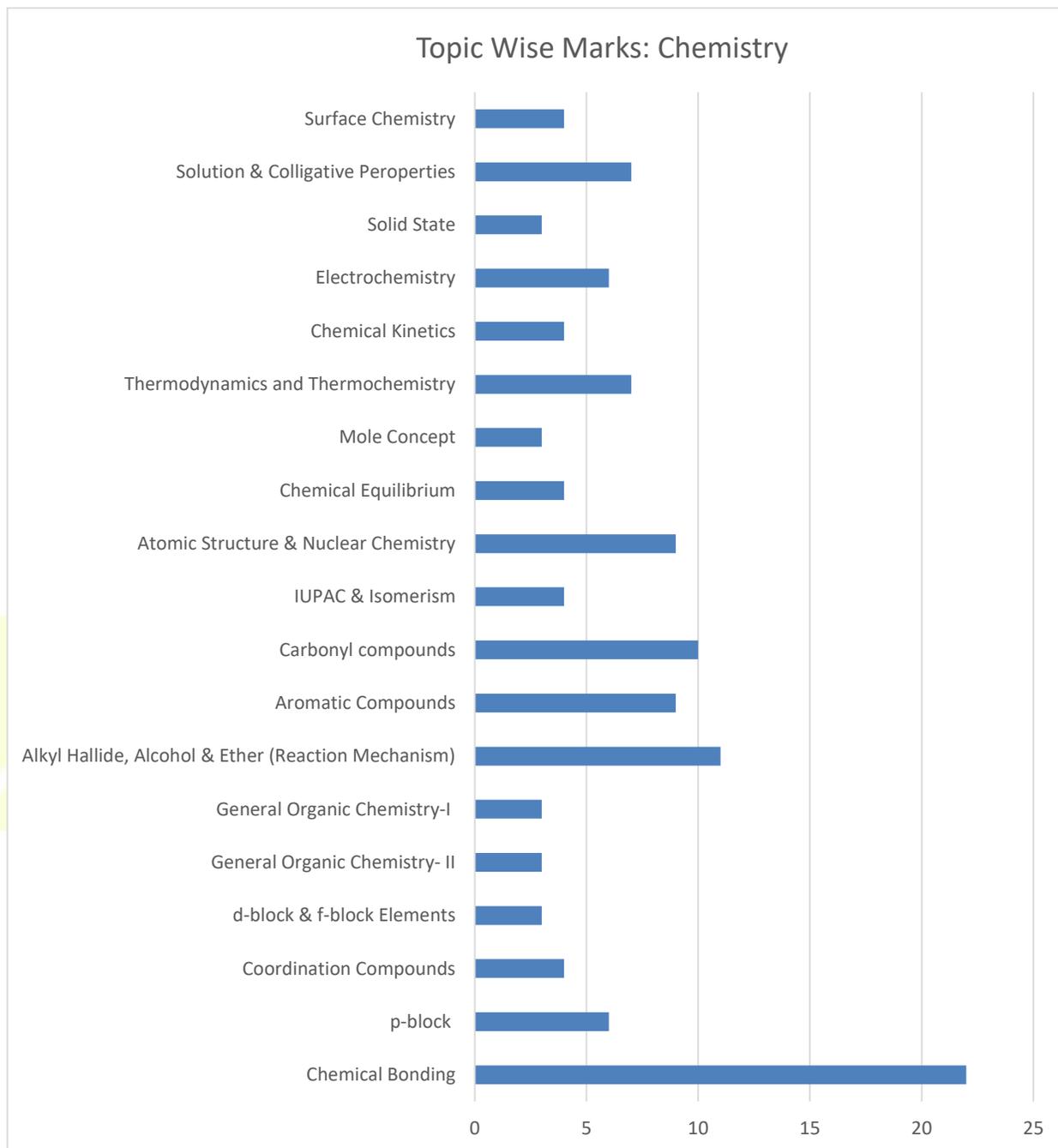
Physics			
UNIT & TOPIC NAME	NO OF QUESTIONS	TOTAL MARKS	(%) WEIGHTAGE
<b>Physics</b>	<b>36</b>	<b>122</b>	<b>100.00%</b>
<b>Electrodynamics</b>	<b>12</b>	<b>42</b>	<b>34.43%</b>
Alternating Current	2	8	6.56%
Capacitance	2	6	4.92%
Electro Magnetic Field	6	20	16.39%
Electro Magnetic Induction	1	4	3.28%
Electrostatics	1	4	3.28%
<b>Heat &amp; Thermodynamics</b>	<b>5</b>	<b>17</b>	<b>13.93%</b>
Heat Transfer	1	4	3.28%
KTG & Thermodynamics	4	13	10.66%
<b>Mechanics</b>	<b>11</b>	<b>36</b>	<b>29.51%</b>
Centre of Mass	1	4	3.28%
Error in Measurement	1	3	2.46%
Gravitation	1	3	2.46%
Mathematical Tools	1	3	2.46%
Rectilinear Motion & Vectors	1	3	2.46%
Rigid Body Dynamics	5	17	13.93%
Surface Tension	1	3	2.46%

<b>Modern Physics</b>	<b>3</b>	<b>9</b>	<b>7.38%</b>
Modern Physics	2	6	4.92%
Nuclear Physics	1	3	2.46%
<b>Optics</b>	<b>3</b>	<b>11</b>	<b>9.02%</b>
Geometrical Optics & Physical Optics	2	7	5.74%
Wave Optics	1	4	3.28%
<b>SHM &amp; Waves</b>	<b>2</b>	<b>7</b>	<b>5.74%</b>
Sound Waves	1	3	2.46%
String Wave	1	4	3.28%
<b>Grand Total</b>	<b>36</b>	<b>122</b>	<b>100.00%</b>



CHEMISTRY ANALYSIS
**Topic wise Allocation of Marks**

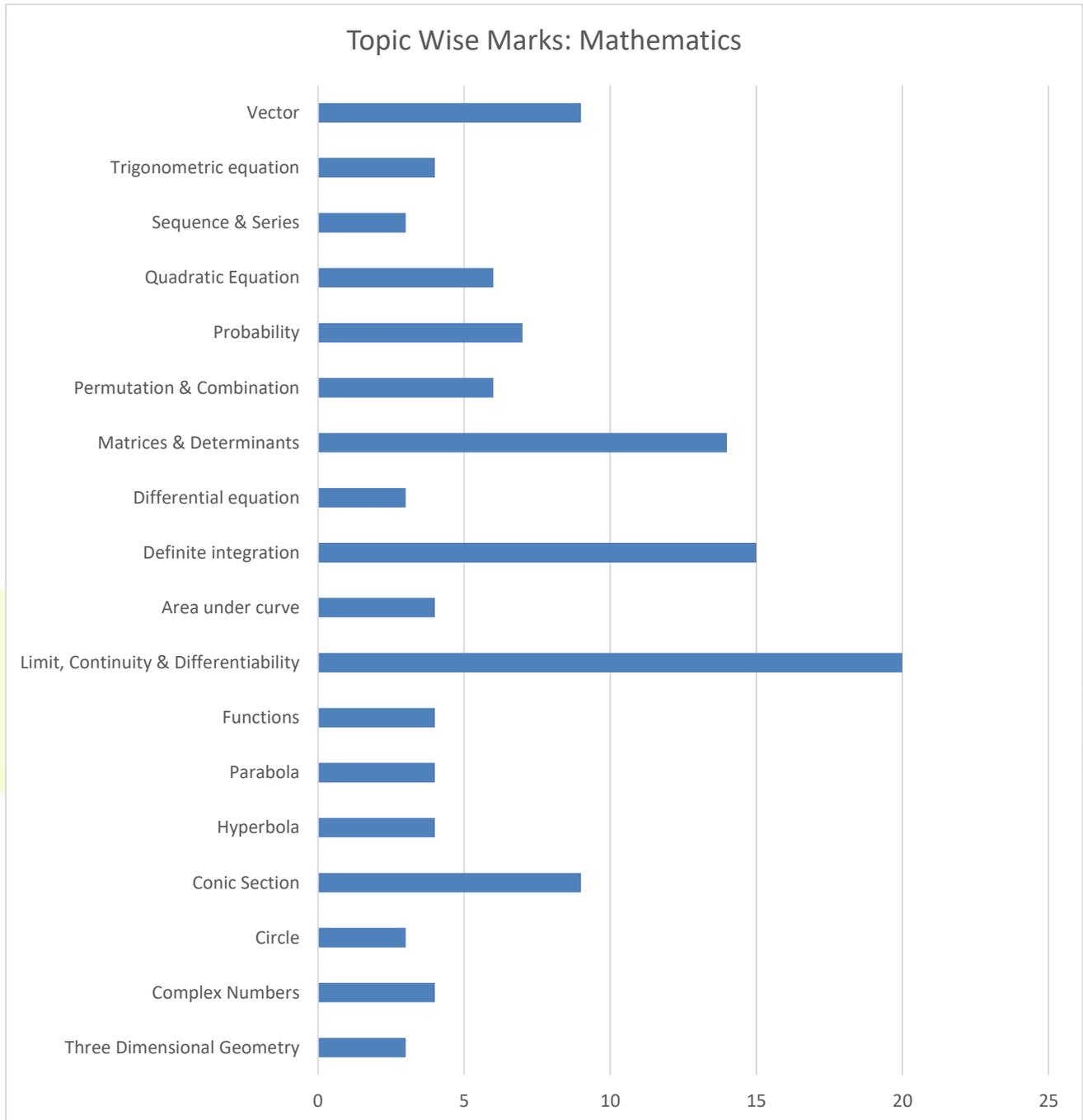
CHEMISTRY			
UNIT & TOPIC NAME	NO OF QUESTIONS	TOTAL MARKS	(%) WEIGHTAGE
<b>Chemistry</b>	<b>36</b>	<b>122</b>	<b>100.00%</b>
<b>Inorganic Chemistry-I</b>	<b>8</b>	<b>28</b>	<b>22.95%</b>
Chemical Bonding	6	22	18.03%
p-block	2	6	4.92%
<b>Inorganic Chemistry-II</b>	<b>2</b>	<b>7</b>	<b>5.74%</b>
Coordination Compounds	1	4	3.28%
d-block & f-block Elements	1	3	2.46%
<b>Organic Chemistry-I</b>	<b>2</b>	<b>6</b>	<b>4.92%</b>
General Organic Chemistry- II	1	3	2.46%
General Organic Chemistry-I	1	3	2.46%
<b>Organic Chemistry-II</b>	<b>10</b>	<b>34</b>	<b>27.87%</b>
Alkyl Halide, Alcohol & Ether (Reaction Mechanism)	3	11	9.02%
Aromatic Compounds	3	9	7.38%
Carbonyl compounds	3	10	8.20%
IUPAC & Isomerism	1	4	3.28%
<b>Physical Chemistry-I</b>	<b>7</b>	<b>23</b>	<b>18.85%</b>
Atomic Structure & Nuclear Chemistry	3	9	7.38%
Chemical Equilibrium	1	4	3.28%
Mole Concept	1	3	2.46%
Thermodynamics and Thermochemistry	2	7	5.74%
<b>Physical Chemistry-II</b>	<b>7</b>	<b>24</b>	<b>19.67%</b>
Chemical Kinetics	1	4	3.28%
Electrochemistry	2	6	4.92%
Solid State	1	3	2.46%
Solution & Colligative Properties	2	7	5.74%
Surface Chemistry	1	4	3.28%
<b>Grand Total</b>	<b>36</b>	<b>122</b>	<b>100.00%</b>



## MATHEMATICS ANALYSIS

### Topic wise Allocation of Marks

MATHEMATICS			
UNIT & TOPIC NAME	NO OF QUESTIONS	TOTAL MARKS	(%) WEIGHTAGE
<b>Mathematics</b>	<b>36</b>	<b>122</b>	<b>100.00%</b>
<b>Algebra</b>	<b>1</b>	<b>3</b>	<b>2.46%</b>
Three Dimensional Geometry	1	3	2.46%
<b>Complex Numbers</b>	<b>1</b>	<b>4</b>	<b>3.28%</b>
Complex Numbers	1	4	3.28%
<b>Coordinate Geometry</b>	<b>6</b>	<b>20</b>	<b>16.39%</b>
Circle	1	3	2.46%
Conic Section	3	9	7.38%
Hyperbola	1	4	3.28%
Parabola	1	4	3.28%
<b>Differential Calculus</b>	<b>7</b>	<b>24</b>	<b>19.67%</b>
Functions	1	4	3.28%
Limit, Continuity & Differentiability	6	20	16.39%
<b>Integral Calculus</b>	<b>6</b>	<b>22</b>	<b>18.03%</b>
Area under curve	1	4	3.28%
Definite integration	4	15	12.30%
Differential equation	1	3	2.46%
<b>Matrix &amp; Determinants</b>	<b>4</b>	<b>14</b>	<b>11.48%</b>
Matrices & Determinants	4	14	11.48%
<b>Permutation &amp; Combination</b>	<b>2</b>	<b>6</b>	<b>4.92%</b>
Permutation & Combination	2	6	4.92%
<b>Probability</b>	<b>2</b>	<b>7</b>	<b>5.74%</b>
Probability	2	7	5.74%
<b>Quadratic Equation</b>	<b>2</b>	<b>6</b>	<b>4.92%</b>
Quadratic Equation	2	6	4.92%
<b>Sequence &amp; Series</b>	<b>1</b>	<b>3</b>	<b>2.46%</b>
Sequence & Series	1	3	2.46%
<b>Trigonometry</b>	<b>1</b>	<b>4</b>	<b>3.28%</b>
Trigonometric equation	1	4	3.28%
<b>Vector and 3D</b>	<b>3</b>	<b>9</b>	<b>7.38%</b>
Vector	3	9	7.38%
<b>Grand Total</b>	<b>36</b>	<b>122</b>	<b>100.00%</b>



**EXPECTED CUTOFF**

<b>JEE (Advanced) 2017: Official Cut-off</b>			
<b>Category</b>	<b>% Reservation</b>	<b>Cut-off Marks*</b>	<b>% Cutoff</b>
<b>General</b>	50.50%	128	35.00%
<b>OBC</b>	27.00%	115	31.50%
<b>SC</b>	15.00%	64	17.50%
<b>ST</b>	7.50%	64	17.50%
<b>Total</b>	<b>100.00%</b>		

## EPILOGUE

### CATEGORY-WISE RANK SCORE (LAST 4 YEARS):

a) General:

Year	Rank (→)	1	10	50	100	500	1000	2500	5000	7500	10000	Last Rank
<b>2013</b>	Marks (Out of 360)	332	322	288	276	239	221	192	170	155	144	126 (12744)
	%	92	89	80	77	66	61	53	47	43	40	35
<b>2014</b>	Marks (Out of 360)	334	320	292	278	246	230	200	176	161	151	152 (19416)
	%	92	89	81	77	68	64	56	49	45	42	42.22
<b>2015*</b>	Marks (Out of 504)	469	427	379	354	304	276	237	205	184	168	124 (21153)
	%	93	85	77	74	65	61	53	47	43	40	24.6
<b>2016*</b>	Marks (Out of 372)	320	290	261	246	204	183	155	134	121	112	75 (25930)
	%	86	78	70	66	55	49	42	36	33	30	20
<b>2017*</b>	Marks (Out of 366)	340	329	300	285	253	238	209	183	168	157	DNA
	%	93	90	82	78	69	65	57	50	46	43	DNA

b) OBC:

Year	Rank (→)	1	100	500	1000	2500	Last Rank
<b>2013</b>	Marks (Out of 360)	314	226	179	160	131	113 (4244)
	%	87	63	50	44	36	31.39
<b>2014</b>	Marks (Out of 360)	314	230	184	166	137	117 (6000)
	%	87	64	51	46	38	32.5
<b>2015*</b>	Marks (Out of 504)	400	286	225	200	158	112 (6337)
	%	80	57	45	40	30	22.2
<b>2016*</b>	Marks (Out of 372)	300	189	150	131	105	67 (7763)
	%	81	51	40	35	28	18

<b>2017*</b>	Marks (Out of 366)	318	231	183	161	132	DNA
	%	87	63	50	44	36	DNA

\*

1) Data of 2015 & 2016 is an approximation, as the official data has not been released by JEE Advanced authorities.

2) Data of marks for SC/ST is not available. Hence comparative study is not given.

### Last Seat Allotment Ranks (Category Wise):

2013			
Category	Rank	Marks	Percentage
General	7436	156	43.33
OBC	4188	113	31.5
SC	2990	63	17.5
ST	856	63	17.5

2014			
Category	Rank	Marks	Percentage
General	8430	154	42.77
OBC	4782	113	31.5
SC	3826	63	17.5
ST	1137	63	17.5

2015			
Category	Rank	Marks	Percentage
General	9553	171	33.92
OBC	4054	134	26.78
SC	1959	88	17.5
ST	755	88	17.5

2016			
Category	Rank	Marks	Percentage
General	10422	110	29.56
OBC	4381	87	23.38
SC	2347	53	14.24
ST	1125	38	10.21

2017*			
Category	Rank	Marks	Percentage
General	10500	156	42.7%
OBC	4500	115	31.5%
SC	2400	64	17.5%
ST	1200	64	17.5%