

JEE (Advanced) 2016

A Detailed Analysis by Resonance

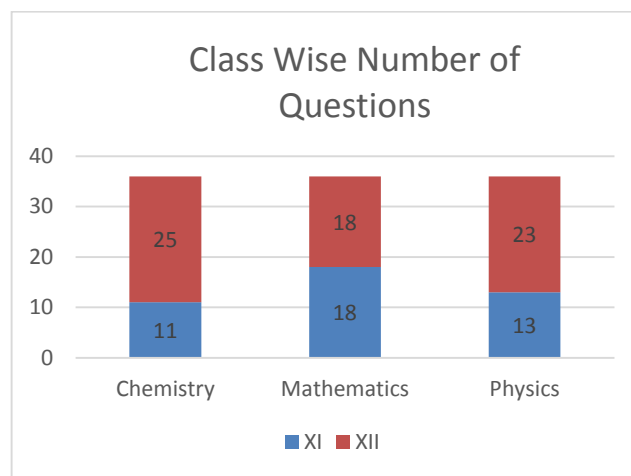
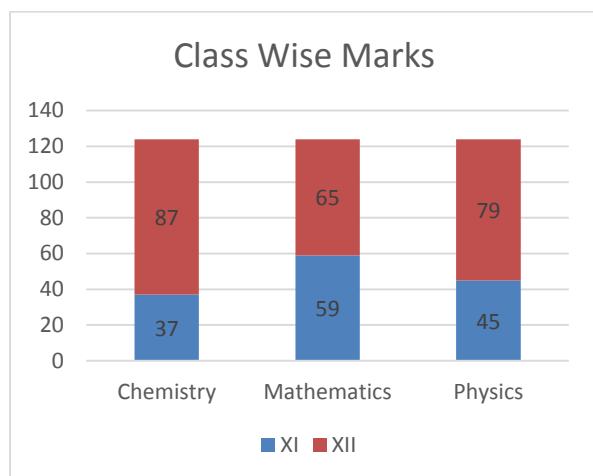
After introducing major changes in IIT Admission Process in 2013, on 22-May-2016 (Sunday) JEE Advanced 2016, stage-2 for IIT Admission Process was conducted by IIT Guwahati. Top 2 Lakh students were eligible through marks in JEE Mains' 2016.

As earlier IIT-JEE Examinations, JEE (Advanced) 2016 was conducted in two parts (Paper 1 & Paper 2) by IIT Guwahati. Paper 1 was conducted from 9 AM to 12 PM and Paper 2 was conducted from 2 PM to 5 PM.

OVERALL MARKS DISTRIBUTION

In Paper I & II both, Total 54 Questions were asked. 18 Questions from each subject were asked. Both papers were of 186 marks. Each subject was of 124 marks overall. Total marks for both paper combined were 372. Total 141 marks questions were from class 11th syllabus and 231 marks questions were from class 12th syllabus.

Subject	Paper	No of Questions		Marks		Percentage (Marks Wise)	
		11 th	12 th	11 th	12 th	11 th	12 th
Chemistry	Paper 1	8	10	27	35	44%	56%
	Paper 2	3	15	10	52	16%	84%
	Total	11	25	37	87	30%	70%
Mathematics	Paper 1	10	8	34	28	55%	45%
	Paper 2	8	10	25	37	40%	60%
	Total	18	18	59	65	48%	52%
Physics	Paper 1	6	12	21	41	34%	66%
	Paper 2	7	11	24	38	39%	61%
	Total	13	23	45	79	36%	64%
Total	Paper 1	24	30	82	104	44%	56%
	Paper 2	18	36	59	127	32%	68%
	Total	42	66	141	231	38%	62%



BRIEF QUANTITATIVE ANALYSIS

Following is the brief pattern description of both the papers of JEE (Advanced) 2016.

Question Pattern for Each Subject in Paper 1

	Single Choice Correct	One or More Correct Option Correct	Single Digit Integer	Total
Questions/Subject	5	8	5	20
Marks / Question	3	4	3	N.A
Partial Marking	0	1*	0	N.A
Negative Marking	-1	-2	0	N.A
Marks/Subject	15	32	15	62
Total Questions	15	24	15	54
Total Marks	45	96	45	186

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

Question Pattern for Each Subject in Paper 2

	One or More than One Correct Answer Type MCQs	One or More Correct Option Correct	Comprehension MCQ	Total
Questions/Subject	6	8	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	18	32	12	62
Total Questions	18	24	12	54
Total Marks	54	96	36	186

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	Paper 1	Paper 2	Total
Chemistry	2.31	2.01	2.16
Mathematics	2.16	2.09	2.13
Physics	1.87	2.54	2.21
Total	2.11	2.22	2.17

Difficulty Level Analysis: No of Questions

Subject	Easy	Moderate	Difficult	Total
Chemistry	9	13	14	36
Mathematics	9	15	12	36
Physics	11	7	18	36
Total	29	35	44	108

Difficulty Level Analysis: Marks Allocation

Subject	Easy	Moderate	Difficult	Total
Chemistry	31	42	51	124
Mathematics	28	52	44	124
Physics	37	24	63	124
Total	96	118	158	372

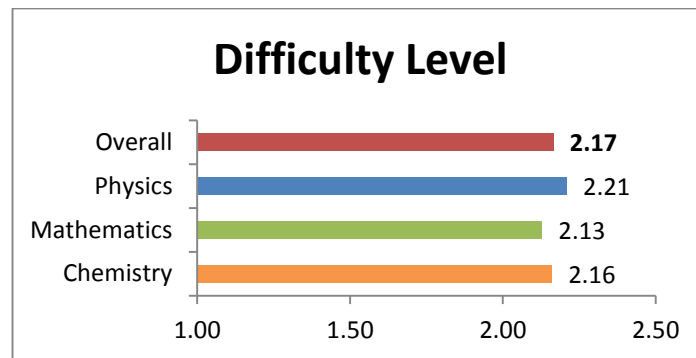
In paper I, paper of chemistry was considered difficult by Resonance experts. Due to lengthy and calculation intensive nature of the problems in mathematics paper, it was considered between medium to difficult. Physics paper was relatively easier of the three subjects.

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

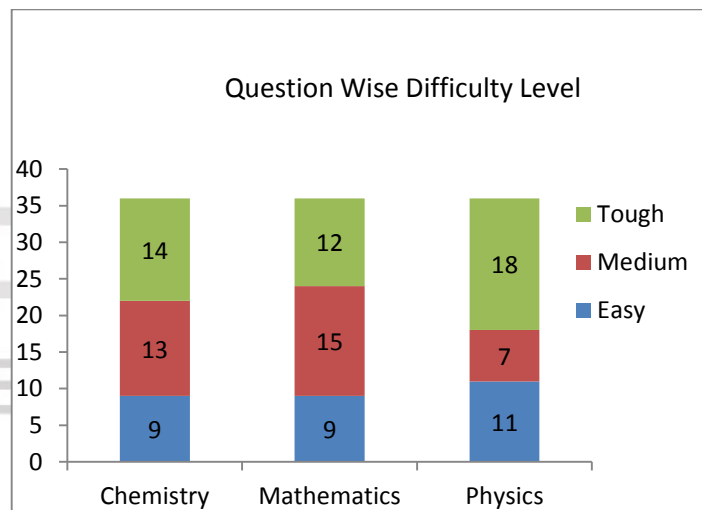
Overall, Resonance experts feel that all subjects were of similar difficulty level. Physics was relatively tough compared with Chemistry & Mathematics. Around 96 Marks can be considered easy overall, 118 marks Moderate and 158 marks are considered difficult in the paper by Resonance Team.

Overall, it is felt that paper was of similar difficulty as last year.

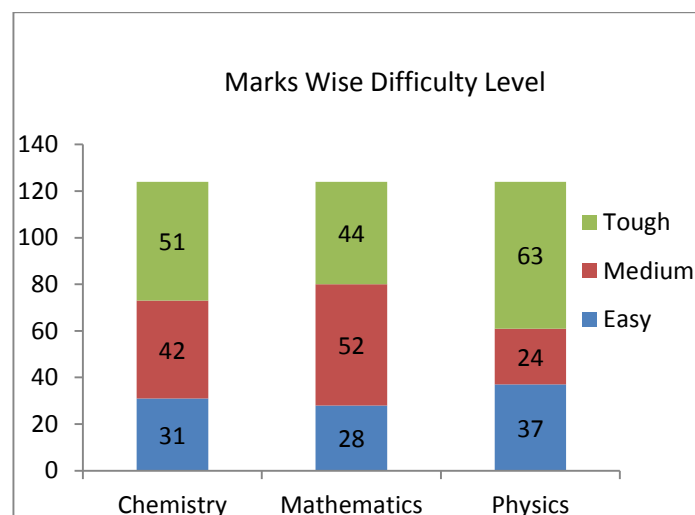
Overall Difficulty



Question Wise Difficulty Breakup

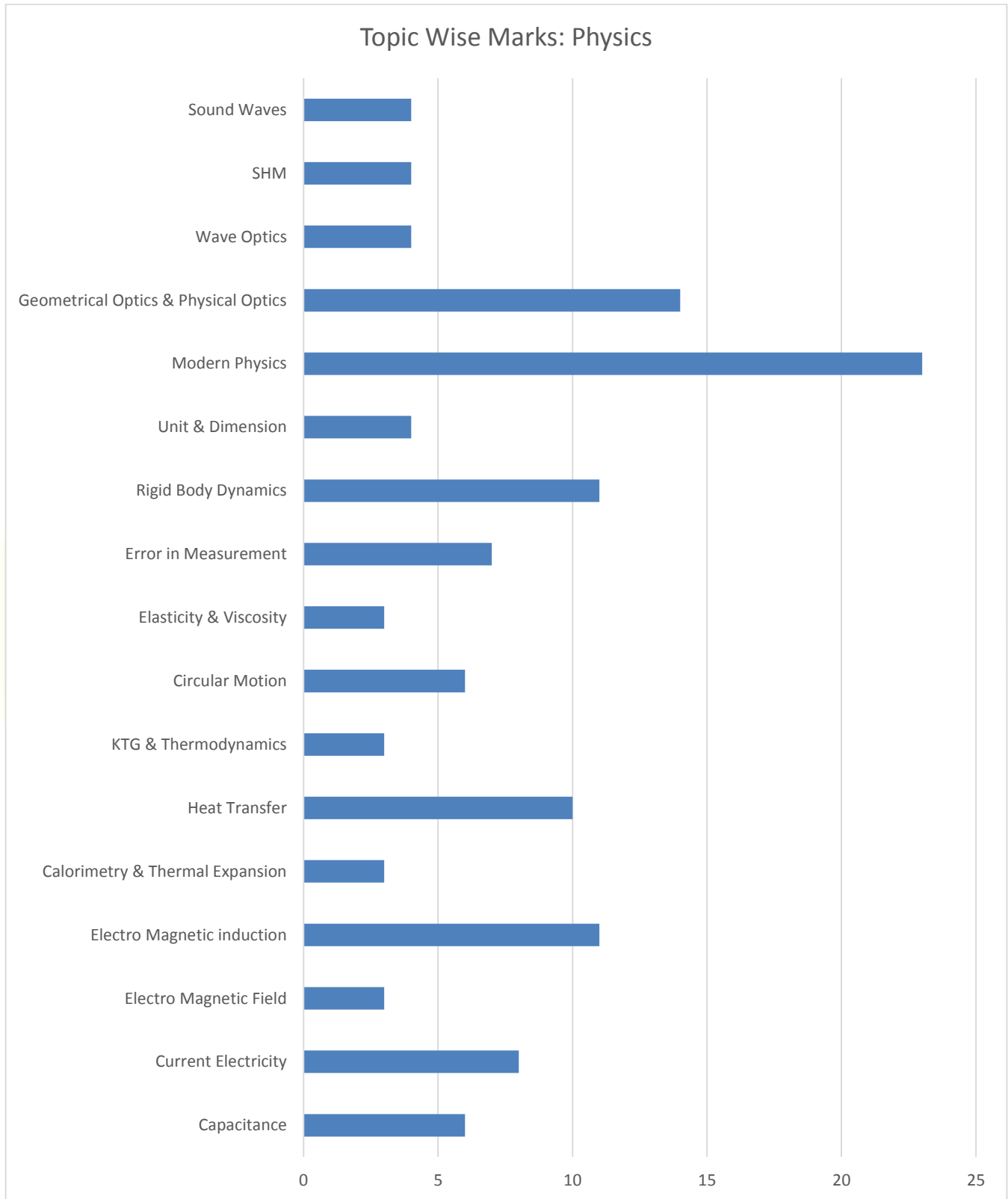


Mark Wise Difficulty Breakup



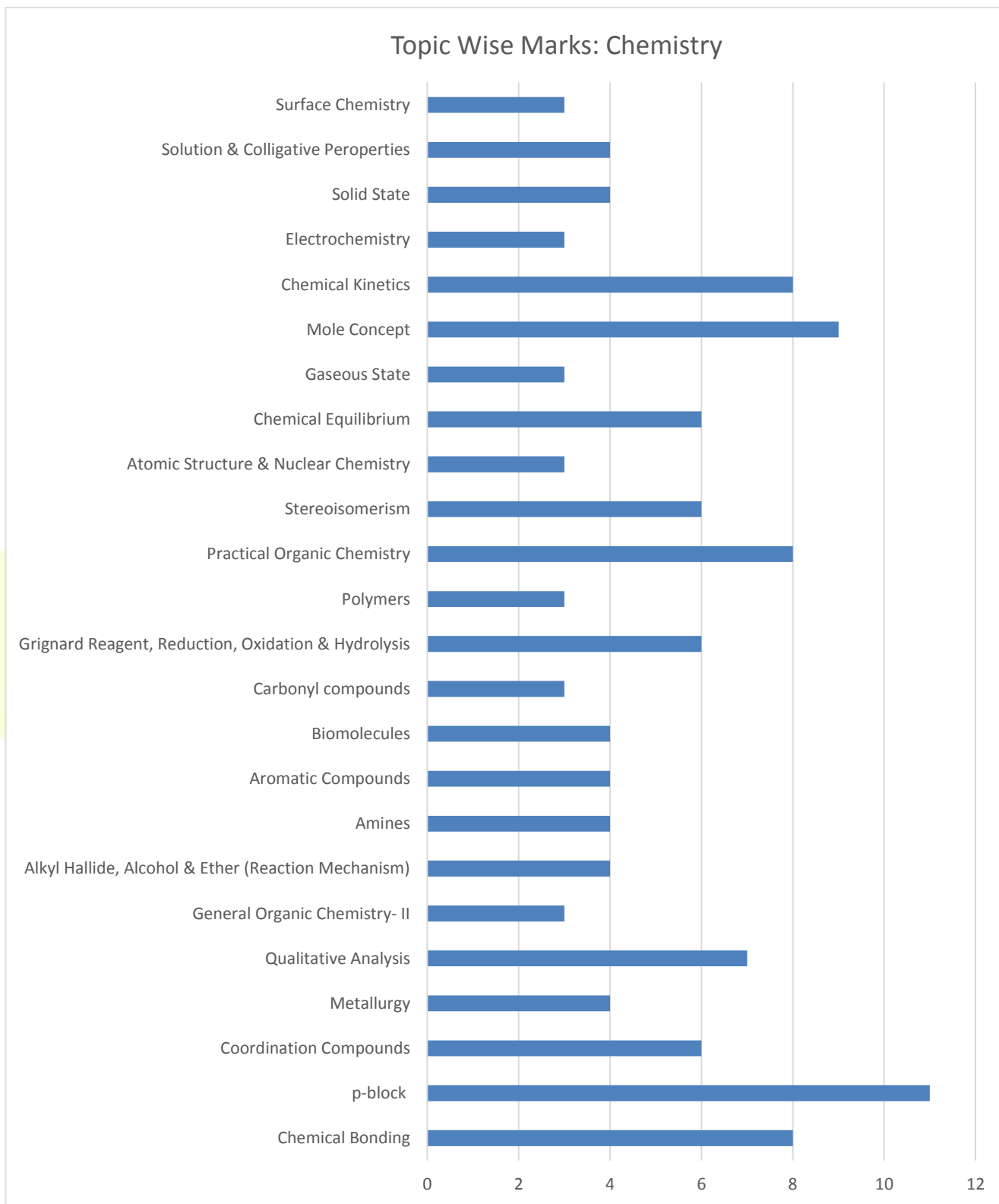
SUBJECT WISE ANALYSIS
PHYSICS ANALYSIS
Topic wise Allocation of Marks

Physics			
UNIT & TOPIC NAME	NO OF QUESTIONS	TOTAL MARKS	(%) WEIGHTAGE
Physics	36	124	100.00%
Electrodynamics	8	28	22.58%
Capacitance	2	6	4.84%
Current Electricity	2	8	6.45%
Electro Magnetic Field	1	3	2.42%
Electro Magnetic induction	3	11	8.87%
Heat & Thermodynamics	5	16	12.90%
Calorimetry & Thermal Expansion	1	3	2.42%
Heat Transfer	3	10	8.06%
KTG & Thermodynamics	1	3	2.42%
Mechanics	9	31	25.00%
Circular Motion	2	6	4.84%
Elasticity & Viscosity	1	3	2.42%
Error in Measurement	2	7	5.65%
Rigid Body Dynamics	3	11	8.87%
Unit & Dimension	1	4	3.23%
Modern Physics	7	23	18.55%
Modern Physics	7	23	18.55%
Optics	5	18	14.52%
Geometrical Optics & Physical Optics	4	14	11.29%
Wave Optics	1	4	3.23%
SHM & Waves	2	8	6.45%
SHM	1	4	3.23%
Sound Waves	1	4	3.23%
Grand Total	36	124	100.00%



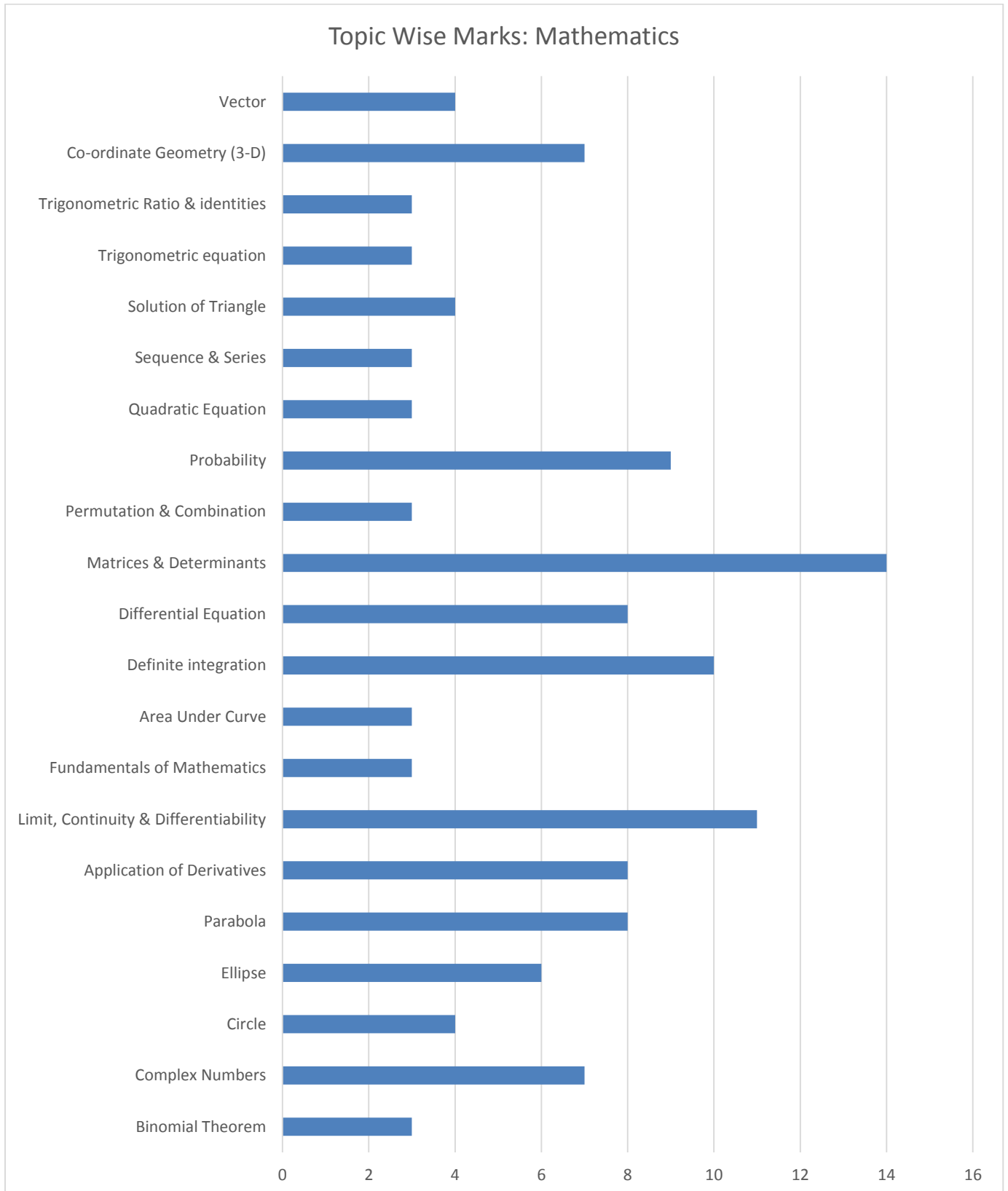
CHEMISTRY ANALYSIS
Topic wise Allocation of Marks

CHEMISTRY			
UNIT & TOPIC NAME	NO OF QUESTIONS	TOTAL MARKS	(%) WEIGHTAGE
Chemistry	36	124	100.00%
Inorganic Chemistry-I	5	19	15.32%
Chemical Bonding	2	8	6.45%
p-block	3	11	8.87%
Inorganic Chemistry-II	5	17	13.71%
Coordination Compounds	2	6	4.84%
Metallurgy	1	4	3.23%
Qualitative Analysis	2	7	5.65%
Organic Chemistry-I	1	3	2.42%
General Organic Chemistry- II	1	3	2.42%
Organic Chemistry-II	12	42	33.87%
Alkyl Halide, Alcohol & Ether (Reaction Mechanism)	1	4	3.23%
Amines	1	4	3.23%
Aromatic Compounds	1	4	3.23%
Biomolecules	1	4	3.23%
Carbonyl compounds	1	3	2.42%
Grignard Reagent, Reduction, Oxidation & Hydrolysis	2	6	4.84%
Polymers	1	3	2.42%
Practical Organic Chemistry	2	8	6.45%
Stereoisomerism	2	6	4.84%
Physical Chemistry-I	7	21	16.94%
Atomic Structure & Nuclear Chemistry	1	3	2.42%
Chemical Equilibrium	2	6	4.84%
Gaseous State	1	3	2.42%
Mole Concept	3	9	7.26%
Physical Chemistry-II	6	22	17.74%
Chemical Kinetics	2	8	6.45%
Electrochemistry	1	3	2.42%
Solid State	1	4	3.23%
Solution & Colligative Properties	1	4	3.23%
Surface Chemistry	1	3	2.42%
Grand Total	36	124	100.00%



MATHEMATICS ANALYSIS
Topic wise Allocation of Marks

MATHEMATICS			
UNIT & TOPIC NAME	NO OF QUESTIONS	TOTAL MARKS	(%) WEIGHTAGE
Mathematics	36	124	100.00%
Binomial Theorem	1	3	2.42%
Binomial Theorem	1	3	2.42%
Complex Numbers	2	7	5.65%
Complex Numbers	2	7	5.65%
Coordinate Geometry	5	18	14.52%
Circle	1	4	3.23%
Ellipse	2	6	4.84%
Parabola	2	8	6.45%
Differential Calculus	5	19	15.32%
Application of Derivatives	2	8	6.45%
Limit, Continuity & Differentiability	3	11	8.87%
Fundamentals of Mathematics	1	3	2.42%
Fundamentals of Mathematics	1	3	2.42%
Integral Calculus	6	21	16.94%
Area Under Curve	1	3	2.42%
Definite integration	3	10	8.06%
Differential Equation	2	8	6.45%
Matrix & Determinants	4	14	11.29%
Matrices & Determinants	4	14	11.29%
Permutation & Combination	1	3	2.42%
Permutation & Combination	1	3	2.42%
Probability	3	9	7.26%
Probability	3	9	7.26%
Quadratic Equation	1	3	2.42%
Quadratic Equation	1	3	2.42%
Sequence & Series	1	3	2.42%
Sequence & Series	1	3	2.42%
Trigonometry	3	10	8.06%
Solution of Triangle	1	4	3.23%
Trigonometric equation	1	3	2.42%
Trigonometric Ratio & identities	1	3	2.42%
Vector and 3D	3	11	8.87%
Co-ordinate Geometry (3-D)	2	7	5.65%
Vector	1	4	3.23%
Grand Total	36	124	100.00%



EXPECTED CUTOFF

JEE (Advanced) 2016: Official Cut-off			
Category	% Reservation	Cut-off Marks*	% Cutoff
Open	50.50%	130	35.00%
OBC	27.00%	117	31.50%
SC	15.00%	65	17.50%
ST	7.50%	65	17.50%
Total	100.00%		

EPILOGUE

CATEGORY-WISE RANK SCORE (LAST 3 YEARS):

a) General:

Year	Rank (→)	1	10	50	100	500	1000	250 0	500 0	7500	10000	Last Rank
2013	Marks (Out of 360)	332	322	288	276	239	221	192	170	155	144	126 (15947)
	%	92	89	80	77	66	61	53	47	43	40	35
2014	Marks (Out of 360)	334	320	292	278	246	230	200	176	161	151	126 (19401)
	%	92	89	81	77	68	64	56	49	45	42	35
2015*	Marks (Out of 504)	469	427	379	354	304	276	237	205	184	168	123 (21153)
	%	93	85	77	74	65	61	53	47	43	40	35

b) OBC: (Approximate Seats = 2700)

Year	Rank (→)	1	100	500	1000	2500	Last Rank
2013	Marks (Out of 360)	314	226	179	160	131	113 (4188)
	%	87	63	50	44	36	31.5
2014	Marks (Out of 360)	314	230	184	166	137	113 (5001)
	%	87	64	51	46	38	31.5
2015*	Marks (Out of 504)	400	286	225	200	158	124 (5001)
	%	80	57	45	40	30	24.6

*

1) Data of 2015 is an approximation as official data has not been released from 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