

Paper Analysis - JEE (Advanced) 2017

After the major change by IITs in 2013, JEE is conducted in two stage, one is JEE main and other is JEE advanced. This time stage of examination JEE advanced was conducted on 21st May 2017. Now as the paper is over students are eagerly waiting for analysis of both papers and to fulfill this requirement of students, askITians experts have come up with the detailed analysis of both papers - 1 and 2. Here is the summary of everything 2 in the form of Paper Analysis.

IIT Madras conducted stage 2 of JEE level exam called JEE advance. Timings for paper 1 was 9 AM to 12 PM and that of paper 2 was 2 PM to 5 PM. Overall most students were happy as the papers were slightly on the easier side. But still there were some who are not happy as the cutoff is expected to rise this year as compared to previous years.

Subject wise Chemistry was the most difficult in both the papers, Physics was moderate and Mathematics was easier. Also, this time JEE had introduced some new types of questions in paper 1 in which questions were given in form of 3 columns and students had to interpret the correct options.

Overall Marks Distribution

Here is the distribution of questions in various categories along with their marks in respective categories.

Paper – 1 Questions Pattern				
	Single Choice Correct	More than one correct	Single Digit Integer	Total
Questions per Subject	6	7	5	20
Marks per Question	3	4	3	N.A.
Partial Marking	0	1*	0	N.A.
Negative Marking	-1	-2	0	N.A.
Marks per Subject	18	28	15	61
Total Questions	18	21	15	54
Total Marks	54	84	45	183

* Partial marks will be given as 1 per correct option in multi-correct type question provide no incorrect answer is ticked.

Paper – 2 Questions Pattern				
	Only One option correct	More than one correct	Comprehension Type questions	Total
Questions per Subject	7	7	4	18
Marks per Question	3	4	3	N.A.
Partial Marking	0	1*	0	N.A.
Negative Marking	-1	-2	0	N.A.
Marks per Subject	21	28	12	61
Total Questions	21	21	12	54
Total Marks	63	84	36	186

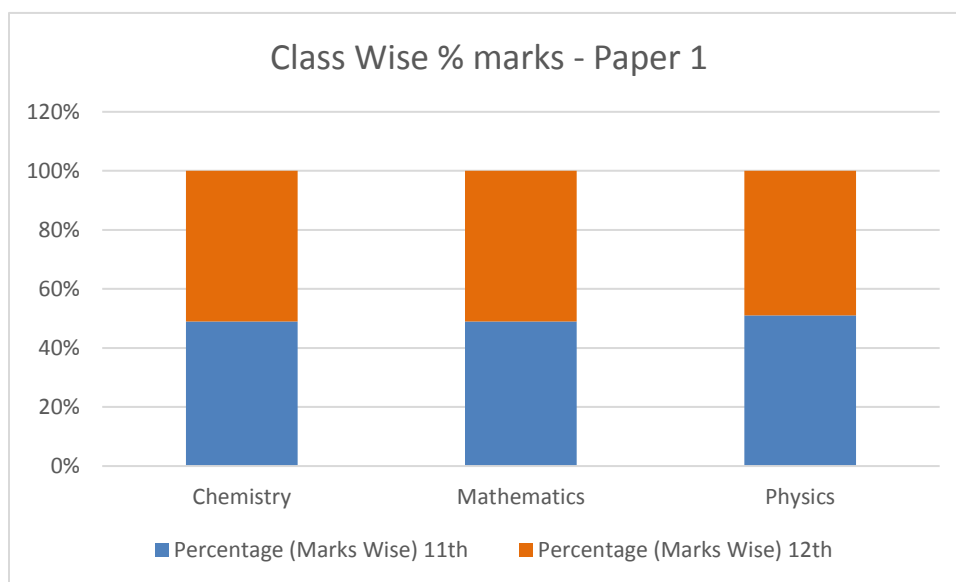
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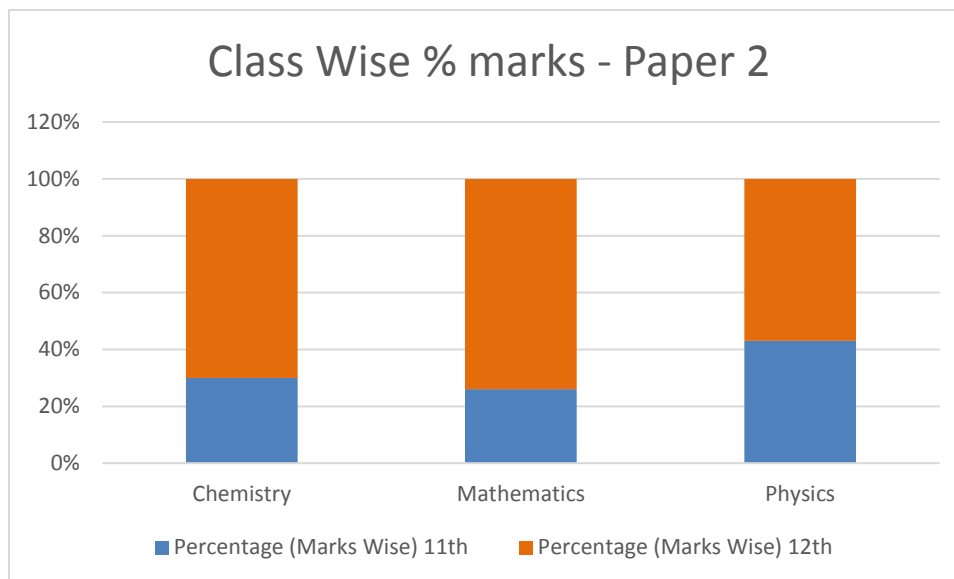
Brief Quantitative Analysis

Total 108 questions were asked including both the papers 1 and 2. Individually each paper contained 54 questions. Out of which in paper 1, 6 were single correct, 7 were multi correct and 5 were integer type per subject. While in paper 2, 7 were single correct, 7 were multi correct and 4 were comprehension type questions. Total marks for both papers combined was 366.

Out of the total 108 questions, 45 questions were from 11th standard syllabus were as 63 questions were from 12th standard syllabus.

Subject	Paper	No of Questions		Marks		Percentage (Marks Wise)	
		11th	12th	11th	12th	11th	12th
Chemistry	Paper 1	9	9	30	31	49%	51%
	Paper 2	5	13	18	43	30%	70%
	Total	14	22	48	74	39%	61%
Mathematics	Paper 1	9	9	30	31	49%	51%
	Paper 2	5	13	16	45	26%	74%
	Total	14	22	46	76	38%	62%
Physics	Paper 1	9	9	31	30	51%	49%
	Paper 2	8	10	26	35	43%	57%
	Total	17	19	57	65	47%	53%
Total	Paper 1	27	27	91	92	50%	50%
	Paper 2	18	36	60	123	33%	67%
	Total	45	63	151	215	41%	59%





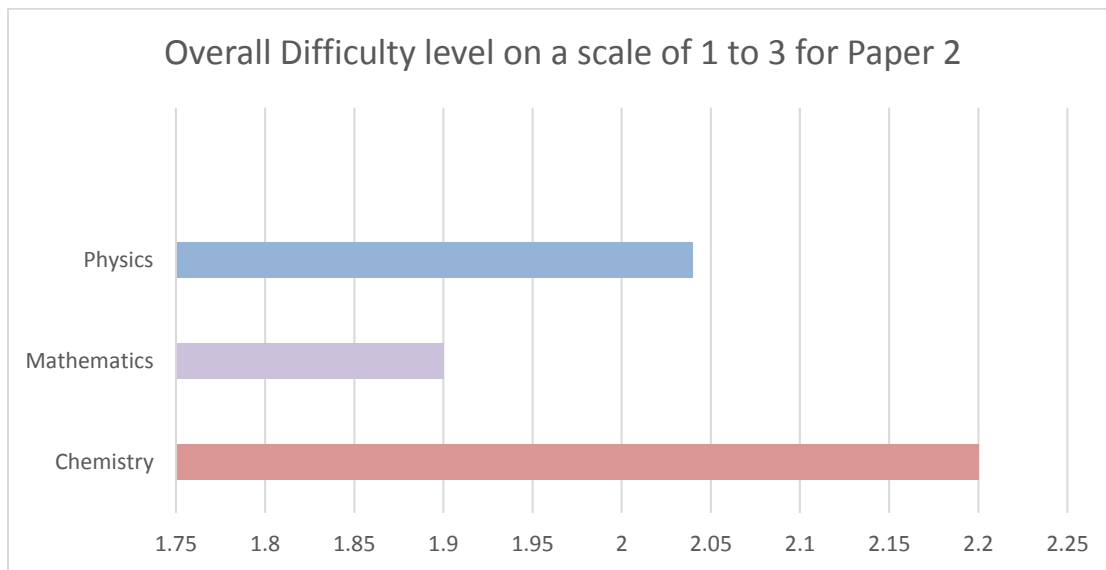
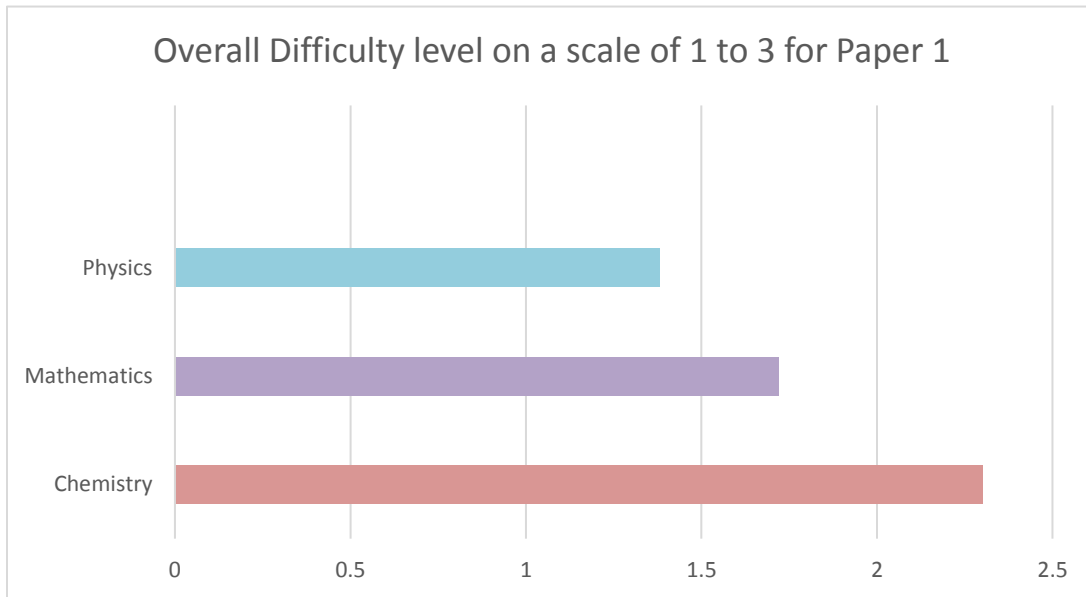
Overall Difficulty Level Analysis

While doing the analysis of the paper each question was rated from 1 to 3 by askITians experts depending on the difficulty level of question. Rating of each questions was done like

- 1 - Easy
- 2 - Moderate
- 3 – Difficult

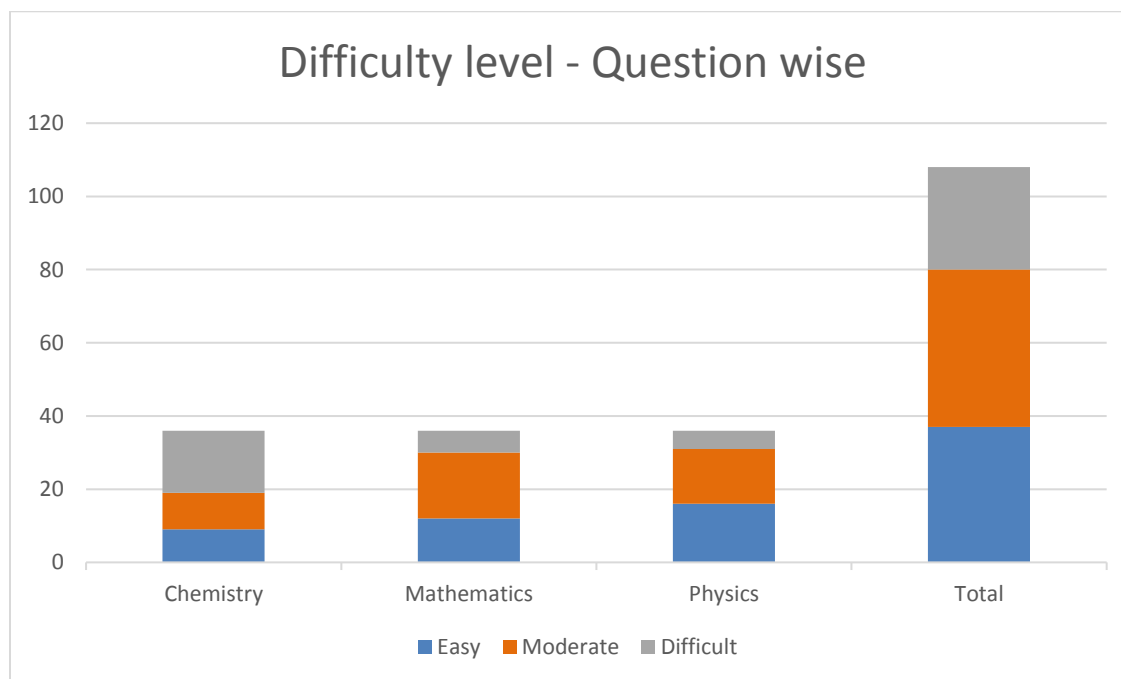
And finally, the average difficulty level was calculated by calculating the average of individual ratings.

Subject	Paper 1	Paper 2	Total
Chemistry	2.30	2.20	2.25
Mathematics	1.72	1.9	1.84
Physics	1.38	2.04	1.71
Total	1.80	2.07	1.93



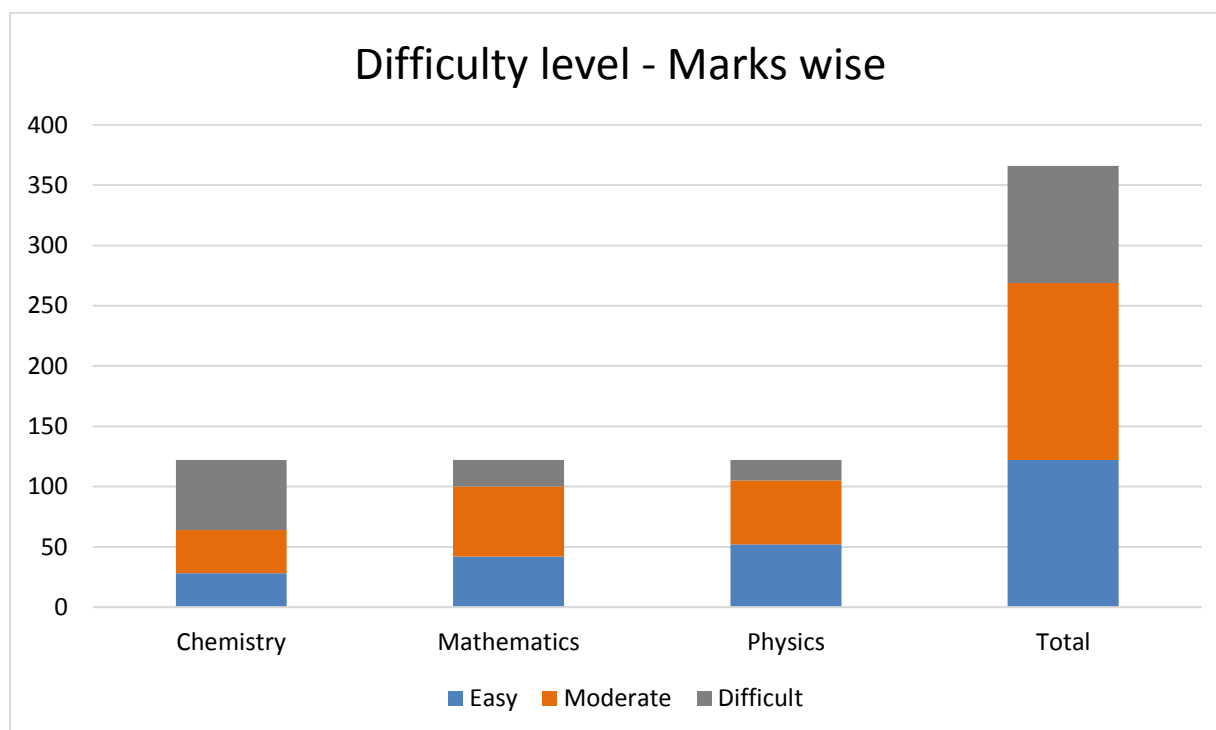
Difficulty Level Analysis: No of Questions

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



According to askITians experts, Chemistry in paper 1 was comparatively difficult but mathematics and physics was on the easier side. For paper 2 also Chemistry was the most difficult because of length calculation. Physics was somewhere between medium and difficult because of intensive nature of problems in it. However, in paper 2 mathematics was still easy.

Overall, Chemistry was most difficult this time, while physics was between moderate and tough, and mathematics was relatively easier.

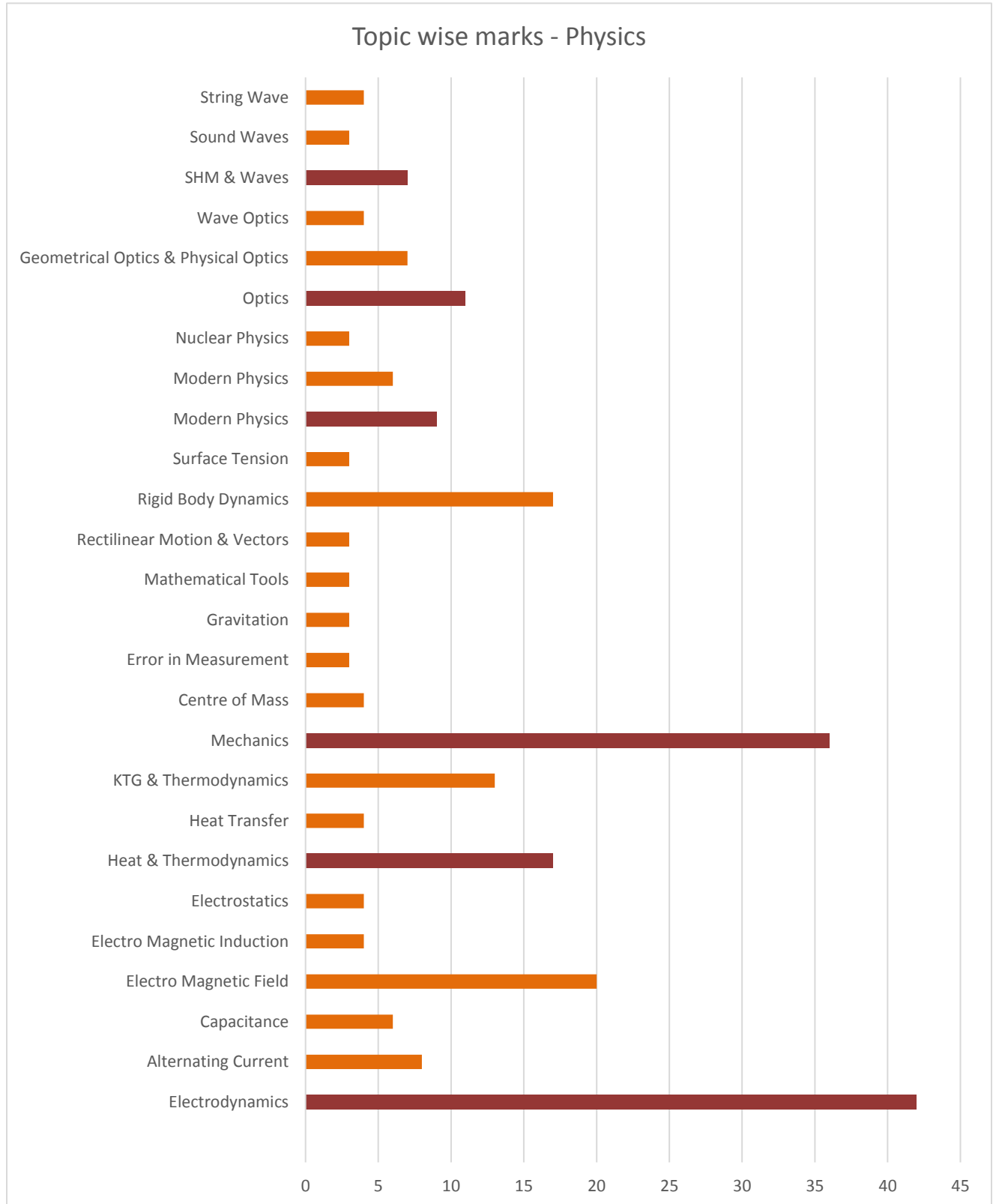
As per the difficulty level analysis done by us we have found that easy questions were of 122 marks, moderate of 147 marks and tough questions of 97 marks. As the paper was relatively easy than last year, students are expected to score high this year

Subject Wise Analysis

A - Physics

Topic wise allocation of # of Questions & Marks

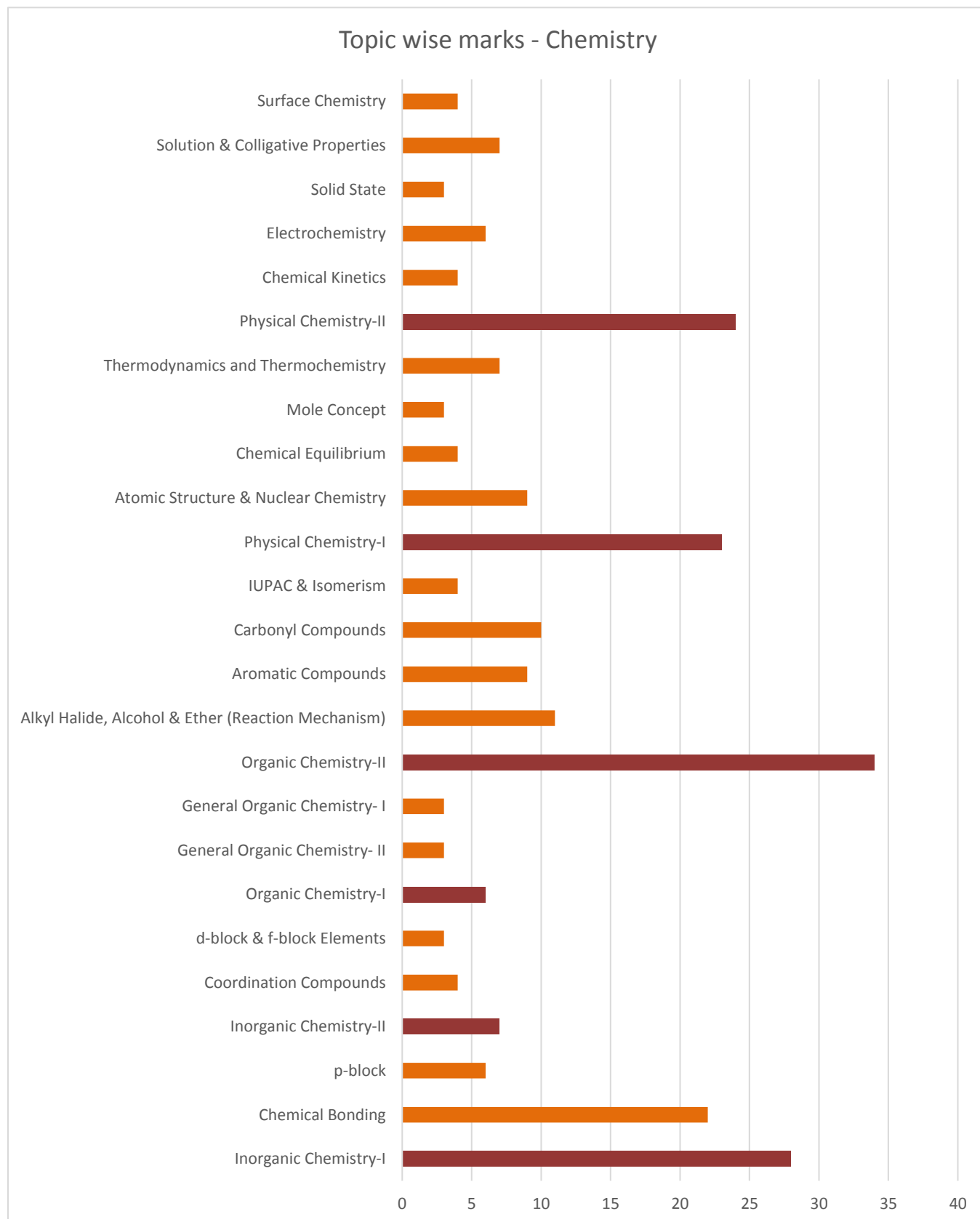
Physics			
UNIT & TOPIC NAME	NO OF QUESTIONS	TOTAL MARKS	(%) WEIGHTAGE
Physics	36	122	100.00%
Electrodynamics	12	42	34.43%
Alternating Current	2	8	6.56%
Capacitance	2	6	4.92%
Electro Magnetic Field	6	20	16.39%
Electro Magnetic Induction	1	4	3.28%
Electrostatics	1	4	3.28%
Heat & Thermodynamics	5	17	13.93%
Heat Transfer	1	4	3.28%
KTG & Thermodynamics	4	13	10.66%
Mechanics	11	36	29.51%
Centre of Mass	1	4	29.51%
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	13.93%
Modern Physics	3	9	7.38%
Modern Physics	2	6	4.92%
Nuclear Physics	1	3	2.46%
Optics	1	11	9.02%
Geometrical Optics & Physical Optics	2	7	5.74%
Wave Optics	1	4	3.28%
SHM & Waves	2	7	5.74%
Sound Waves	1	3	2.46%
String Wave	1	4	3.28%
Grand Total	36	122	100.00%



B - Chemistry

Topic wise allocation of # of Questions & Marks

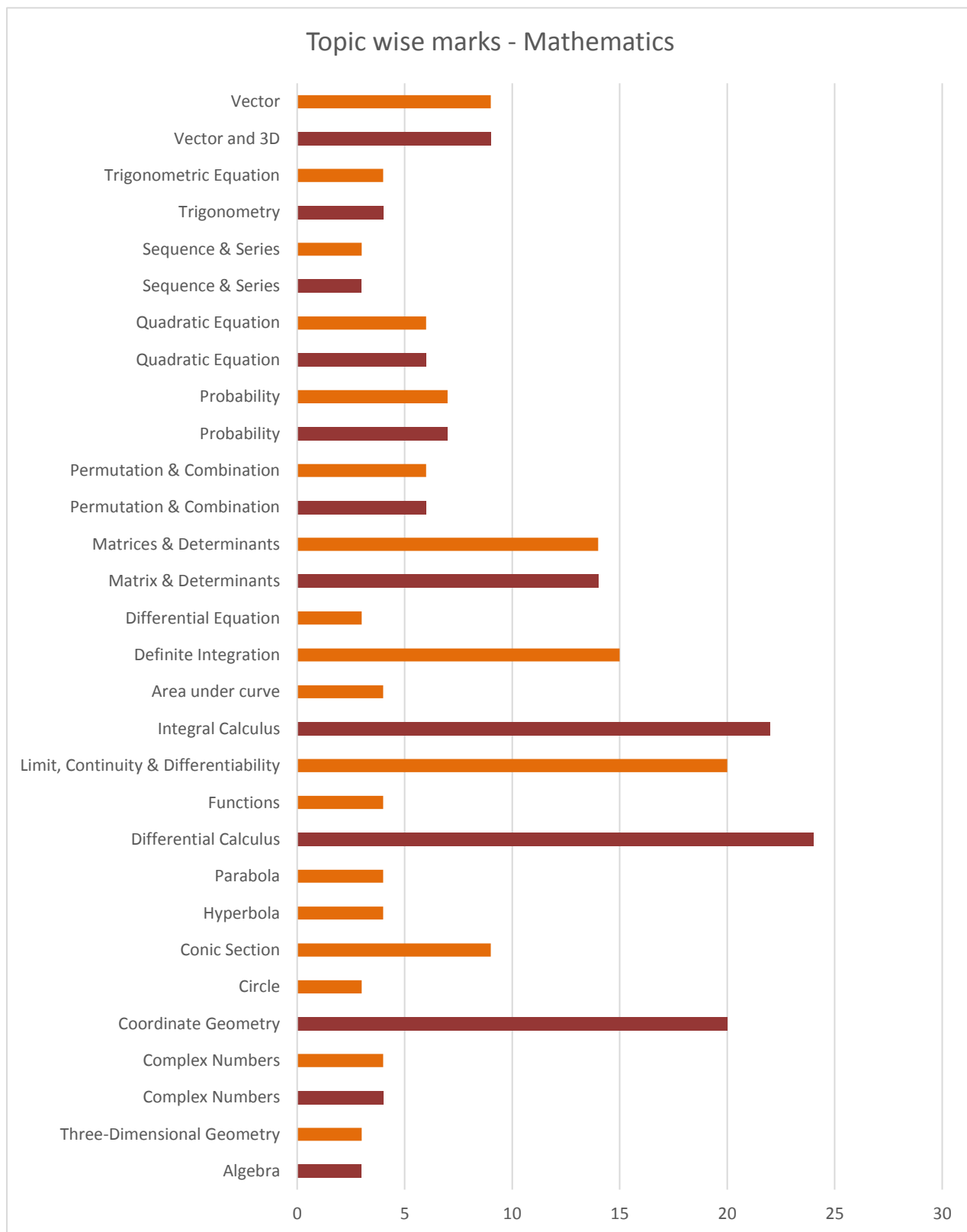
CHEMISTRY			
UNIT & TOPIC NAME	NO OF QUESTIONS	TOTAL MARKS	(%) WEIGHTAGE
Chemistry	36	122	100.00%
Inorganic Chemistry-I	8	28	22.95%
Chemical Bonding	6	22	18.03%
p-block	2	6	4.92%
Inorganic Chemistry-II	2	7	5.74%
Coordination Compounds	1	4	3.28%
d-block & f-block Elements	1	3	2.46%
Organic Chemistry-I	2	6	4.92%
General Organic Chemistry- II	1	3	2.46%
General Organic Chemistry- I	1	3	2.46%
Organic Chemistry-II	10	34	27.87%
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%
Physical Chemistry-I	7	23	18.85%
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%
Physical Chemistry-II	7	24	19.67%
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%
Grand Total	36	122	100.0%



C - Mathematics

Topic wise allocation of # of Questions & Marks

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



Reservation of Seats and Expected Cutoff

JEE (Advanced) 2017: Estimated 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%		

*Cutoff is based on the estimation made by the askITians experts according to the difficulty level of paper. Actual cutoff might vary.