

Comprehensive Analysis by NUCLEUS EDUCATION

On 8-April-2018, JEE (Main) 2018 was conducted for students opting to take this exam by offline mode. This is the sixth edition of this Exam after wide ranging changes were introduced in year 2013 by CBSE and Ministry of HRD. Around 11.5 Lakh students are expected to appear for this exam in offline and online modes.

JEE (Main) 2018 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. Following are the important updates related to JEE (Main) 2018:

- 4000 additional candidates can now apply for JEE Advanced as the number of candidates eligible to appear for exam has increased to 2,24,000 from 2,20,000.
- Digital/ scanned copy of signature of Father/ Mother/ Guardian of the candidates has to be uploaded in the application form.
- Candidates appearing for the JEE Main exam from Gujarat, Daman & Diu and Dadra and Nagar Haveli will have an additional choice of appearing for the paper in Gujarati besides English and Hindi.
- The number of exam centre cities has gone up to 258 from 113 last year which is almost twice.
- Number of CFTIs participating in JEE Main 2018 has increased from 20 to 23.
- For the first time this year, metal detectors will be used to screen candidates. This is to ensure no candidate can take any electronic devices inside the exam hall and indulge in unfair practices.
- Following are some important dates for JEE Main 2018:

JEE Main Paper I Offline Exam (Pen and paper based)	April 8, 2018 (9.30 am to 12.30 noon)
JEE Main Paper II (Offline)	April 8, 2018 (2 pm to 5 pm)
JEE Main Paper I Online Exam	April 15 and 16, 2018 (9.30 am to 12.30 noon) (2 pm to 5 pm)

Display of Answer Key and OMR Sheets	April 24-27, 2018
Acceptance of Challenge of Answer Keys	Up to April 27, 2018 (11:59 PM)
Result Announcement	April 30, 2018
Declaration of All India Ranks	April 30, 2018
Paper 2 Result Announcement	May 31, 2018
Availability of Rank Card	After announcement of AIR of JEE Main 2018

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.

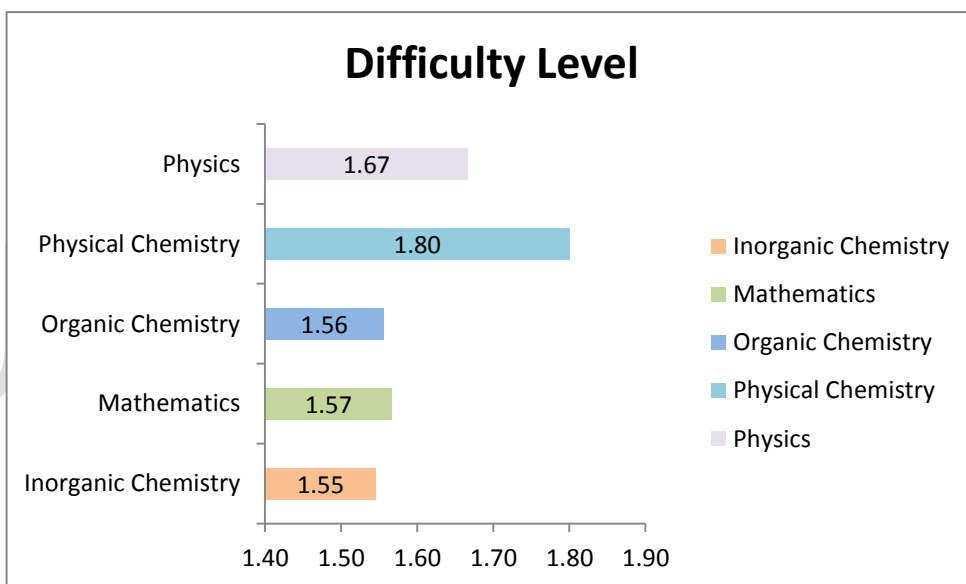
Subject	Class 11		Class 12		Total	
	No of Questions	Total Marks	No of Questions	Total Marks	No of Questions	Total Marks
Inorganic Chemistry	7	28	4	16	11	44
Mathematics	16	64	14	56	30	120
Organic Chemistry	2	8	7	28	9	36
Physical Chemistry	6	24	4	16	10	40
Physics	14	56	16	64	30	120
Grand Total	45	180	45	180	90	360

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 Nucleus Education. The individual ratings are then averaged to calculate overall difficulty level.

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

Subject	Difficulty Level
Physics	1.67
Physical Chemistry	1.80
Organic Chemistry	1.56
Mathematics	1.57
Inorganic Chemistry	1.55
Total	1.62



DIFFICULTY LEVEL ANALYSIS: NO OF QUESTIONS

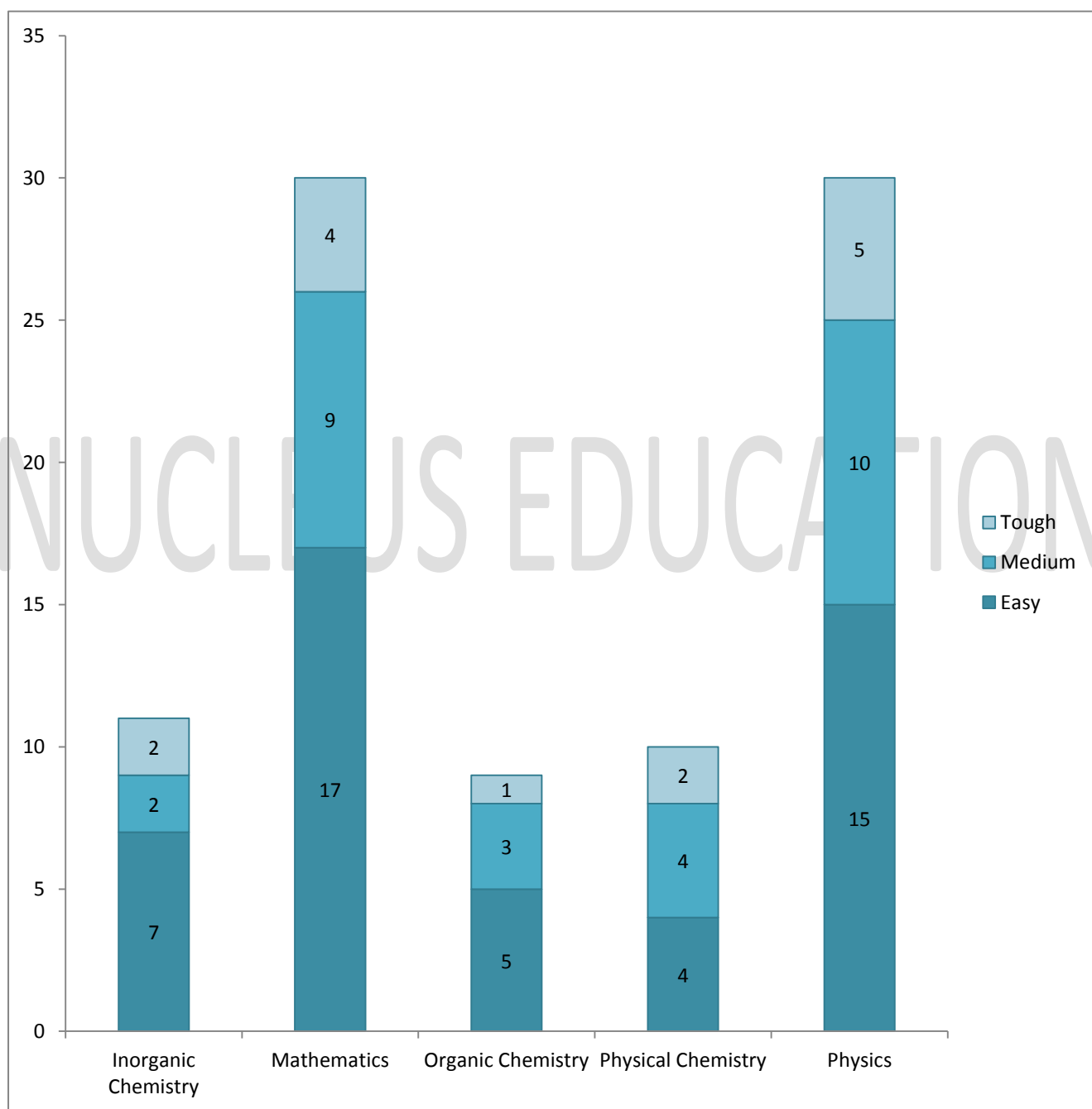
Subject	Easy Level		Medium Level		Difficult Level		Total	
	No of Questions	Total Marks	No of Questions	Total Marks	No of Questions	Total Marks	No of Questions	Total Marks
Inorganic Chemistry	7	28	2	8	2	8	11	44
Mathematics	17	68	9	36	4	16	30	120
Organic Chemistry	5	20	3	12	1	4	9	36
Physical Chemistry	4	16	4	16	2	8	10	40
Physics	15	60	10	40	5	20	30	120
Grand Total	48	192	28	112	14	56	90	360

Nucleus Education experts feel that subjects

1. Physical Chemistry: Paper was tougher than the last year.
2. Inorganic Chemistry: Paper was easier than the last year.
3. Organic Chemistry: Paper was tougher than the last year
4. Physics: Paper was easy but as it was a bit lengthy, the paper was rated tougher than the last year.
5. Mathematics: Paper was significantly easy than last year and students will be able to score good marks in this paper.

Overall, paper was on the easier side as compared to last year and though total number of selections would increase this year, the cutoff is expected to increase.

Question Wise Difficulty Breakup



SUBJECT WISE ANALYSIS
PHYSICS ANALYSIS

Physics			
UNIT & TOPIC NAME	NO OF QUESTIONS	TOTAL MARKS	(%) WEIGHTAGE
Physics	30	120	100.00%
A.C.	1	4	3.33%
power factor	1	4	3.33%
Alternating Current	1	4	3.33%
Quality Factor(LCR)	1	4	3.33%
CAPACITOR	1	4	3.33%
DIELECTRIC	1	4	3.33%
Center of Mass	1	4	3.33%
Collision	1	4	3.33%
Circular Motion	1	4	3.33%
Centripetal Force	1	4	3.33%
COM	1	4	3.33%
Collision	1	4	3.33%
communication	1	4	3.33%
Bandwidth	1	4	3.33%
Current electricity	3	12	10.00%
INSTRUMENTS	2	8	6.67%
Ohm's law	1	4	3.33%
Elasticity	1	4	3.33%
BULK MODULUS	1	4	3.33%
Electrostatics	1	4	3.33%
Conductor	1	4	3.33%
EMW	1	4	3.33%
EMW	1	4	3.33%
ERROR	1	4	3.33%
ERROR	1	4	3.33%
KINEMATICS	1	4	3.33%
GHRAPH	1	4	3.33%
KTG	1	4	3.33%
KTG	1	4	3.33%
MEC	2	8	6.67%
FORCE ON MOVING CHARGE	1	4	3.33%
MAGNETIC MOMENT	1	4	3.33%
MODERN PHYSICS	2	8	6.67%
BOHR MODEL	2	8	6.67%
NLM	1	4	3.33%
Friction	1	4	3.33%

RBD	2	8	6.67%
Moment of Inertia	2	8	6.67%
Semi-Conductor	1	4	3.33%
PN Diode	1	4	3.33%
SHM	1	4	3.33%
SHM	1	4	3.33%
THERMODYNAMICS	1	4	3.33%
THERMODYNAMICS PROCESS	1	4	3.33%
Wave Optics	2	8	6.67%
DIFFRACTION	1	4	3.33%
Polarization	1	4	3.33%
WAVES	1	4	3.33%
Standing Wave	1	4	3.33%
WPE	1	4	3.33%
POTENTIAL ENERGY	1	4	3.33%
Grand Total	30	120	100.00%

CHEMISTRY ANALYSIS

Chemistry			
UNIT & TOPIC NAME	NO OF QUESTIONS	TOTAL MARKS	(%) WEIGHTAGE
Inorganic Chemistry	11	44	36.67%
Chemical bonding	4	16	13.33%
Lewis octet theory	1	4	3.33%
MOT	1	4	3.33%
Types of Bond	1	4	3.33%
VSEPR Theory	1	4	3.33%
Coordination Compounds	2	8	6.67%
Isomerism	1	4	3.33%
Oxidation state	1	4	3.33%
Environmental Chemistry	1	4	3.33%
International standards for drinking water	1	4	3.33%
Hydrogen & It's compounds	1	4	3.33%
H ₂ O ₂	1	4	3.33%
p-block	1	4	3.33%
Preparation of N ₂	1	4	3.33%
p-block + Metallurgy	1	4	3.33%
p-block + Metallurgy (Combined Question)	1	4	3.33%

s-block	1	4	3.33%
Group-IA (Alkali metals)	1	4	3.33%
Organic Chemistry	9	36	30.00%
Alkyl halide	1	4	3.33%
Elimination	1	4	3.33%
Alkyl/Aryl halide	1	4	3.33%
Ether Cleavage	1	4	3.33%
Aromatic Compound	2	8	6.67%
Electrophilic Substitution Reaction	1	4	3.33%
Phenol	1	4	3.33%
Biomolecules	1	4	3.33%
Carbohydrate	1	4	3.33%
Chemistry in everyday life	1	4	3.33%
Drugs	1	4	3.33%
GOC	1	4	3.33%
Acid & Base	1	4	3.33%
Hydrocarbon	1	4	3.33%
Reduction	1	4	3.33%
POC	1	4	3.33%
Practical Organic Chemistry	1	4	3.33%
Physical Chemistry	10	40	33.33%
Chemical Equilibrium	1	4	3.33%
Temperature Dependence of Equilibrium Constant	1	4	3.33%
Chemical Kinetics	1	4	3.33%
Experimental determination of order of reaction	1	4	3.33%
Electrochemistry	1	4	3.33%
Faraday's Law of electrolysis	1	4	3.33%
Ionic Equilibrium	3	12	10.00%
Common Ion Effect	1	4	3.33%
Indicator	1	4	3.33%
Solubility product	1	4	3.33%
Liquid Solution	1	4	3.33%
Depression in freezing point	1	4	3.33%
Mole Concept	1	4	3.33%
Empirical Formula	1	4	3.33%
Solid State	1	4	3.33%
Defects in Solid	1	4	3.33%
THERMODYNAMICS	1	4	3.33%
Relationship between DH & DU	1	4	3.33%
Grand Total	30	120	100.00%

MATHEMATICS ANALYSIS

Mathematics			
UNIT & TOPIC NAME	NO OF QUESTIONS	TOTAL MARKS	(%) WEIGHTAGE
Mathematics	30	120	100.00%
3D	1	4	3.33%
Line of Intersection of Two Planes	1	4	3.33%
AOD	1	4	3.33%
Maxima & Minima	1	4	3.33%
Basic Maths	1	4	3.33%
Modulus Function	1	4	3.33%
Binomial Theorem	1	4	3.33%
Binomial Theorem	1	4	3.33%
Complex Number	1	4	3.33%
Cube roots of Unity	1	4	3.33%
Conic Section	1	4	3.33%
Tangent	1	4	3.33%
Coordinate Geometry	5	20	16.67%
Hyperbola	1	4	3.33%
Parabola	2	8	6.67%
Straight Line	2	8	6.67%
Co-ordinate Geometry (3-D)	1	4	3.33%
Co-ordinate Geometry (3-D)	1	4	3.33%
Definite Integration	1	4	3.33%
Properties of DI (King)	1	4	3.33%
Determinant	2	8	6.67%
Determinant	2	8	6.67%
Integral Calculus	3	12	10.00%
Area under curve	1	4	3.33%
Differential equation	1	4	3.33%
Indefinite integration	1	4	3.33%
LCD	1	4	3.33%
Differentiability	1	4	3.33%

Limit	1	4	3.33%
Sandwich Theorem	1	4	3.33%
Mathematical Reasoning	1	4	3.33%
Mathematical Reasoning	1	4	3.33%
Permutation & Combination	1	4	3.33%
Permutation & Combination	1	4	3.33%
Probability	1	4	3.33%
Probability	1	4	3.33%
Sequence & Series	2	8	6.67%
Sequence & Series	2	8	6.67%
Sets & Relation	1	4	3.33%
Sets & Relation	1	4	3.33%
Statistics	1	4	3.33%
Statistics	1	4	3.33%
Trigonometry	2	8	6.67%
Height & distance	1	4	3.33%
Trigonometric equation	1	4	3.33%
Vector	1	4	3.33%
Coplanarity	1	4	3.33%
Grand Total	30	120	100.00%

EXPECTED CUTOFF

JEE (Main) 2018: Tentative[#] Cutoff Table for JEE (Advanced) 2018

Category	% Reservation	Total Seats	Cut-off Marks*	% Cutoff
General	50.50%	113120	86	23.89%
OBC	27.00%	60480	63	17.50%
SC	15.00%	33600	46	12.78%
ST	7.50%	16800	43	11.94%
Total	100.00%	224000		

JEE (Main) 2018: 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) 2018 for JEE (Advanced) 2018 is estimated on the basis of Previous Year Data and Toughness Analysis of JEE (Main) 2018 Paper by Nucleus Education Experts. These are not official data released by Authorities concerned.

APPENDIX

Comparison Between 2015, 2016, 2017 and 2018 JEE (Main) Paper				
Number of Students				
	2015	2016	2017	2018
Number of Students	Around 13 Lakhs	Around 12 Lakhs	Around 12 Lakhs	Around 11.5 Lakhs
Number of Students eligible for JEE Advanced				
	2015	2016	2017	2018
Number of Students	150000	200000	220000	224000
Difficulty Level				
	2015	2016	2017	2018
Chemistry	1.73	1.63	1.70	1.63
Mathematics	1.73	1.83	1.53	1.57
Physics	1.9	1.6	1.70	1.67
Overall Difficulty	1.79	1.69	1.64	1.62
Cut off				
	2015	2016	2017	2018 (expected)
GEN	105	100	81	86
OBC	70	70	68	63
SC	50	52	50	46
ST	44	48	47	43
Weightage of Class XI and XII in JEE Main				
	2015	2016	2017	2018
XI	43.33%	51.11%	44.40%	50.00%
XII	56.67%	48.89%	55.60%	50.00%