A Detailed Analysis of JEE Main (Session 1) 2023
31st January, 2023 Shift 1 (9 AM - 12 Noon)
(Memory Based)

Disclaimer: Although students had to answer only 75 questions in exam, analysis below pertains to <=90 questions

JEE Main 2023 (B.E./B.Tech) exam is being conducted entirely in the computer-based mode by the National Testing Agency (NTA). JEE Main Exam 2023 (B.E./B.Tech.) will be held on January 24, 25, 29, 30 , 31 and February 1, 2023. The Paper will be conducted in two shifts i.e, First Shift from 9:00am to 12:00 pm & Second Shift from 3:00pm to 6:00 pm daily.

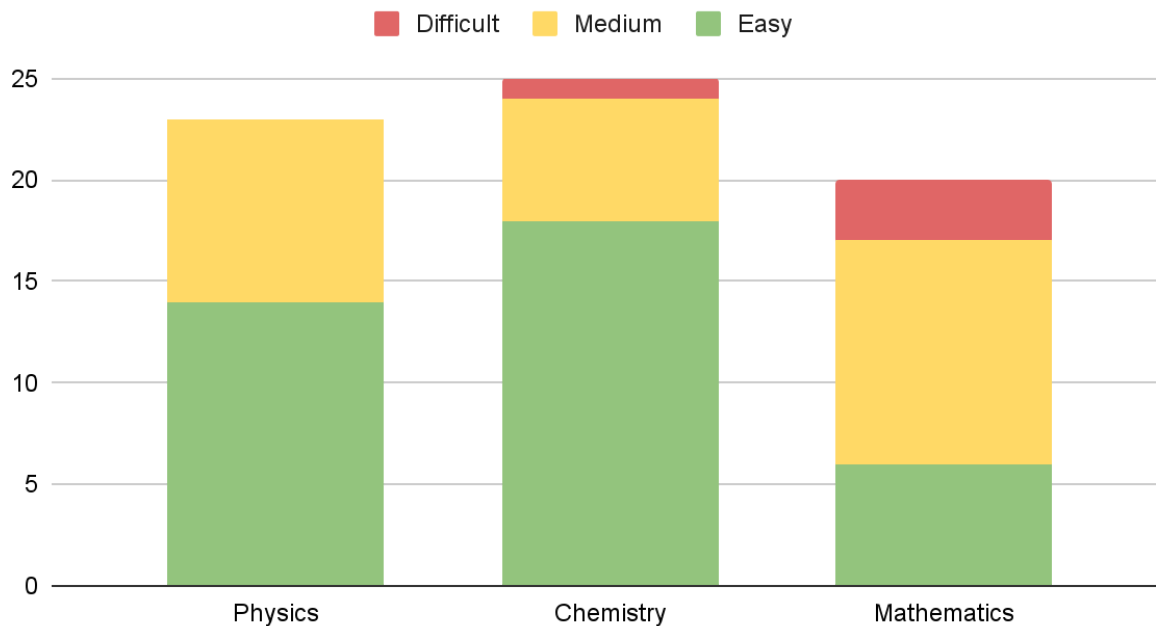### JEE Main Exam Pattern 2023: Paper 1 (B.E/B.Tech)

Particulars	Details
Exam Mode	Computer-based examination
Test Duration	Three hours
No. of Subjects	(i)Physics (ii)Chemistry (iii)Mathematics
Type of questions	MCQs: 4 options with only 1 correct option Numerical Value Questions: Questions whose answers are to be filled in as a numerical value
JEE Mains Total No. of questions	Mathematics: 25 (20+10) 20 Questions were compulsory MCQ Based & 10 Questions were answers as a numerical value. Out of these 10 questions, 5 questions are compulsory. Physics: 25 (20+10) 20 Questions were compulsory MCQ Based & 10 Questions were answers as a numerical value. Out of these 10 questions, 5 questions are compulsory. Chemistry: 25 (20+10) 20 Questions were compulsory MCQ Based & 10 Questions were answers as a numerical value. Out of these 10 questions, 5 questions are compulsory. **Total: 75 Questions (25 questions in each subject)**
JEE Mains Total Marks	**300 Marks**
JEE Main Marking Scheme	**MCQs**: Four marks will be awarded for each correct answer and there will be a negative marking of one mark on each wrong answer. **Questions with numerical value answers:** Candidates will be given four marks for each correct answer and there will be a negative marking of 1 mark for each wrong answer.

Subject Wise Difficulty Level Analysis

Although it was a memory-based question analysis, our experts could figure out **68 questions out of 90 questions** i.e, **23** questions in Physics, **25** questions in Chemistry and **20** in Mathematics.

Subject	Easy		Medium		Difficult		Grand Total	
	No. of Questions	Total Marks	No. of Questions	Total Marks	No. of Questions	Total Marks	No. of Questions	Total Marks
Physics	14	56	9	36	0	0	23	92
Chemistry	18	72	6	24	1	4	25	100
Mathematics	6	24	11	44	3	12	20	80
Grand Total	38	152	26	104	4	16	68	272

Subject Wise Difficulty Level Analysis

Question Wise Distribution Analysis

Following is the question distribution table as per Class,Chapter, Topic & Difficulty -

Physics

Question No	Class	Section	Subject	Chapter Name	Topic Name	Difficulty Level
1	11th	A	Physics	Kinetic Theory Of Gases	Molar Specific Heat	Easy
2	12th	A	Physics	Current Electricity	Drift Velocity	Easy
3	11th	A	Physics	Units & Measurements	Dimensional Analysis	Easy
4	11th	A	Physics	Mechanical Properties Of Fluids	Surface Tension	Medium
5	11th	A	Physics	Laws Of Motion	Normal Reaction	Easy
6	11th	A	Physics	Gravitation	Variation In Acceleration Due to Gravity	Medium
7	12th	A	Physics	Electrostatic Potential & Capacitance	Electric Potential	Easy
8	12th	A	Physics	Atoms	Hydrogen Spectrum	Medium
9	11th	A	Physics	Oscillations	Time Period Of Oscillations	Easy
10	12th	A	Physics	Dual Nature Of Matter & Radiations	de Briglie Hypothesis	Medium
11	11th	A	Physics	Motion In A Plane	Projectile	Easy
12	11th	A	Physics	Thermodynamics	Change In Internal Energy	Medium
13	12th	A	Physics	Current Electricity	Drift Velocity	Medium
14	11th	A	Physics	Motion In A Plane	River Boat Problem	Easy
15	12th	A	Physics	Magnetism & Matter	Bar Magnet In Uniform Magnetic Field	Easy
16	12th	A	Physics	Wave Optics	Law Of Malus	Easy
17	11th	B	Physics	System Of Particles & Rotational Motion	Rolling Motion	Easy

18	11th	B	Physics	Work Energy & Power	Kinetic Energy	Medium
19	12th	B	Physics	Electric Charges & Fields	Electric Flux	Easy
20	12th	B	Physics	Alternating Current	Resonance	Easy
21	11th	B	Physics	Oscillations	Energy in SHM	Medium
22	12th	B	Physics	Current Electricity	Grouping Of Cells	Medium
23	12th	B	Physics	Ray Optics & Optical Instruments	Refraction	Easy

Chemistry

24	12th	A	Chemistry	d and f block elements	electronic configuration	Medium
25	12th	A	Chemistry	Chemical Kinetics	Arrhenius equation	Easy
26	12th	A	Chemistry	d and f block elements	Acidic and basic strength of oxides	Easy
27	11th	A	Chemistry	Chemical Bonding	Valence Bond Theory	Easy
28	12th	A	Chemistry	d and f block elements	Properties of Copper	Easy
29	12th	A	Chemistry	Alcohols,Phenols and ethers	Chemical reactions of phenol	Easy
30	11th	A	Chemistry	s block elements	Important compounds of sodium metal	Easy
31	12th	A	Chemistry	Haloalkanes and Haloarenes	Physical properties	Easy
32	11th	A	Chemistry	Chemical equilibrium	Relationship between Kp and Kc	Easy
33	11th	A	Chemistry	Periodic classification	Ionic radii	Easy
34	12th	A	Chemistry	Chemistry in everyday Life	Artificial sweetning agents	Easy
35	12th	A	Chemistry	Metallurgy	Methods involved in concentration of ores	Easy
36	11th	A	Chemistry	Hydrogen	Properties of Hydrogen peroxide	Easy
37	12th	A	Chemistry	Aldehydes ,Ketones and carboxylic acid	Aldol condensation	Medium
38	11th	A	Chemistry	Atomic structure	Line spectra	Medium
39	12th	A	Chemistry	Coordination compounds	Valence Bond Theory	Difficult

40	11th	A	Chemistry	Chemical Bonding	VSEPR Theory	Easy
41	12th	A	Chemistry	Surface Chemistry	Micelle formation	Easy
42	12th	A	Chemistry	P-block elements-II	Group-15 and Group-17	Medium
43	12th	B	Chemistry	Solution	Colligative properties	Easy
44	11th	B	Chemistry	Some basic concept of organic chemistry	Quantitative analysis	Easy
45	12th	B	Chemistry	P-block elements-II	Group-15 Oxo-acids of Phosphorous	Easy
46	11th	B	Chemistry	Some basic concept of chemistry	Mole concept	Easy
47	12th	B	Chemistry	Electrochemistry	Relationship between Gibb's energy and equilibrium constant	Medium
48	11th	B	Chemistry	Thermodynamics	Hess's Law	Medium

Mathematics

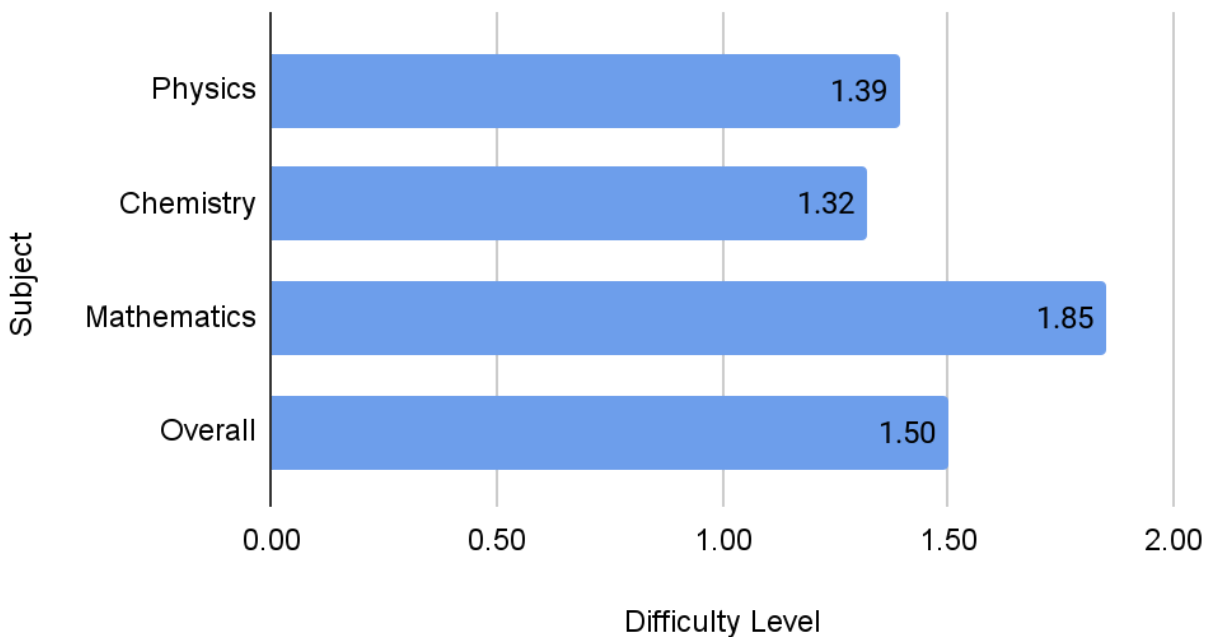| 49	12th	A	Mathematics	Integration	Definite integration	Difficult
50	11th	A	Mathematics	Sequence and Series	Geometric Progression	Medium
51	12th	A	Mathematics	Integration	Definite Integration	Medium
52	12th	A	Mathematics	Inverse Trigonometric function	Equation and Interconversion	Difficult
53	12th	A	Mathematics	Relation and function	Domain and range	Medium
54	11th	A	Mathematics	Conics	Ellipse	Medium
55	11th	A	Mathematics	Complex numbers	Geometry	Medium
56	11th	A	Mathematics	Quadratic eqaution	Biquadratic equation	Difficult
57	12th	A	Mathematics	Continuity and differentiability	Differentiation	Medium
58	12th	A	Mathematics	Vector	Dot product	Easy
59	12th	A	Mathematics	Matrix	Product of matrix	Medium
60	11th	A	Mathematics	Circle	Equation of circle	Medium
61	12th	A	Mathematics	Relation and function	Types of relation	Easy
62	11th	A	Mathematics	Mathematical reasoning	Equivalent statement	Easy
63	11th	B	Mathematics	Permutations and combination	Product rule	Easy
64	11th	B	Mathematics	Binomial Theorem	Remainder	Medium

Overall Difficulty Level Analysis

In this analysis, we have rated every question on a scale of 1 to 3. The ratings are done by our expert faculty. The individual ratings are then averaged to calculate the overall difficulty level.

- Easy - 1
- Medium - 2
- Difficult - 3

Subject	Difficulty Level
Physics	1.39
Chemistry	1.32
Mathematics	1.85
Overall	1.50

Overall Difficulty Level JEE Mains (Session 1) 2023

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Overall	1.50

Conclusion

The Overall Difficulty rating for **31st January JEE Mains Session 1 (Shift 1) 2023** was **1.50** which was considered as **moderate to difficult.** Overall Mathematics was the most difficult subject to attempt. The order of difficulty in different subjects as assessed by a large section of aspirants is Mathematics > Physics > Chemistry.