A Detailed Analysis of JEE Main (Session 1) 2023
25th 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.
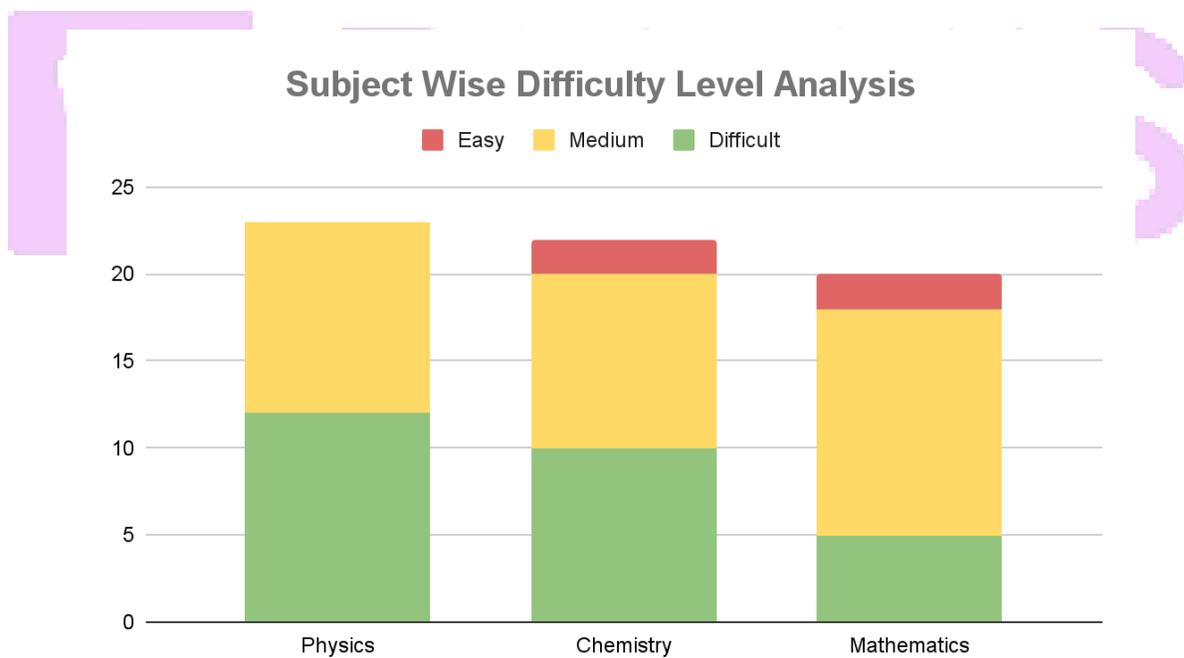
JEE Main Exam Pattern 2023: Paper 1 (B.E/B.Tech)

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 **66 questions out of 90 questions** i.e, **23** questions in Physics, **22** questions in Chemistry and **21** 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	12	48	11	44	0	0	23	92
Chemistry	10	40	10	40	2	8	22	88
Mathematics	5	20	14	56	2	8	21	84
Grand Total	**27**	**108**	**35**	**140**	**4**	**16**	**66**	**264**

Subject Wise Difficulty Level Analysis
Easy   Medium   Difficult

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	Motion In A Straight Line	Uniform Velocity	Easy
2	11th	A	Physics	Laws Of Motion	Circular Motion	Medium
3	11th	A	Physics	Oscillations	SHM	Medium
4	11th	A	Physics	Kinetic Theory Of Gases	RMS Speed	Easy
5	11th	A	Physics	Oscillations	Simple Pendulum	Medium
6	11th	A	Physics	System Of Particles & Rotational Motion	Moment Of Inertia	Medium
7	11th	A	Physics	System Of Particles & Rotational Motion	Equilibrium	Medium
8	11th	A	Physics	Thermodynamics	Carnot Cycle	Medium
9	11th	A	Physics	UNits & Measurements	Dimensional Analysis	Medium
10	12th	A	Physics	Solids & Semiconductor Devices	Photodiode	Medium
11	11th	A	Physics	Thermal Properties Of Matter	Newton's Law of Cooling	Medium
12	12th	A	Physics	Moving Charges & Magnetism	Motion Of charge in E and B	Easy
13	12th	A	Physics	Dual Nature Of Matter & Radiations	Matter Wave	Easy
14	12th	A	Physics	Current Electricity	Equivalent Resistance	Easy
15	12th	A	Physics	Communication System	Amplitude Modulation	Easy
16	12th	A	Physics	Nuclei	Nuclear Density	Easy
17	12th	A	Physics	Electric Charges & Fields	Motion of charge in Uniform Electric field	Medium
18	11th	A	Physics	Gravitation	Variation acceleration due to gravity	Easy

19	11th	B	Physics	Kinetic Theory Of Gases	Ideal Gas Equation	Easy
20	12th	B	Physics	Alternating Current	LC Oscillations	Easy
21	11th	B	Physics	Thermodynamics	Carnot Cycle	Medium
22	12th	B	Physics	Moving Charges & Magnetism	Solenoid	Easy
23	12th	B	Physics	Current Electricity	Electric Circuits	Easy

Chemistry

24	11th	A	Chemistry	Atomic structure	Radius of atom	Easy
25	12th	A	Chemistry	Solid state	Unit cell	Easy
26	12th	A	Chemistry	P block elements-II	Halides of phosphorus	Medium
27	12th	A	Chemistry	Haloalkane and Haloarenes	Nucleophilic substitution	Easy
28	12th	A	Chemistry	P block elements-II	Physical properties group 17	Easy
29	12th	A	Chemistry	Metallurgy	Extraction of copper	Medium
30	12th	A	Chemistry	Biomolecules	Cyclic structure of glucose and fructose	Medium
31	12th	A	Chemistry	Aldehydes , ketones and carboxylic acid	Cannizzaro reaction	Difficult
32	11th	A	Chemistry	S-block elements	Flame Test	Easy
33	11th	A	Chemistry	Hydrocarbons	Chemical reactions	Medium
34	12th	A	Chemistry	Amines	Basicity of Amines	Easy
35	12th	A	Chemistry	Alcohols,Phenols and ether	Preparation of phenol	Easy
36	12th	A	Chemistry	Chemical Kinetics		Easy
37	12th	A	Chemistry	Coordination compounds	Crystal field Theory/ Valence Bond Theory	Medium
38	12th	A	Chemistry	Solutions	Colligative properties- Osmotic Pressure	Easy

39	12th	A	Chemistry	Chemistry in everyday life	Antibiotics	Medium
40	12th	A	Chemistry	Qualitative analysis	Basic radicals	Difficult
41	12th	B	Chemistry	Coordination compound	Valence Bond Theory	Medium
42	12th	B	Chemistry	Chemical Kinetics	Integrated rate law	Medium
43	12th	B	Chemistry	Electrochemistry	Nernst equation	Medium
44	12th	B	Chemistry	d and f block elements	Magnetic moment	Easy
45	11th	B	Chemistry	Thermodynamics	Enthalpy	Medium

Mathematics

46	12th	A	Mathematics	Inverse Trigonometric functions	Multiples & Submultiples	Medium
47	11th	A	Mathematics	Statistics	Variance	Medium
48	12th	A	Mathematics	Continuity & Differentiability	Higher Order derivatives	Medium
49	11th	A	Mathematics	Mathematical Reasoning	Equivalent Statement	Easy
50	11th	A	Mathematics	Binomial Theorem	Arithemetic Binomial Series	Medium
51	11th	A	Mathematics	Limits & Derivatives	Infinite Limits	Medium
52	11th	A	Mathematics	Complex Numbers	Geomtery of Complex Number	Easy
53	12th	A	Mathematics	Indefinite Integration	Partial fraction	Easy
54	12th	A	Mathematics	Definite Integration		Difficult
55	12th	A	Mathematics	Relations & Functions	Composite Function	Medium
56	11th	A	Mathematics	Binomial Theorem	Particular Term	Medium
57	12th	A	Mathematics	Matrices and Determinants	Determinant	Easy
58	12th	A	Mathematics	Probability	Miscellaneous	Medium
59	12th	A	Mathematics	Three Dimensional Geometry	Point of intersection	Medium
60	12th	A	Mathematics	Vector Algebra	Scalar Product	Medium
61	12th	A	Mathematics	Differential Equation	Linear D.E	Medium
62	11th	A	Mathematics	Limits & Derivatives	Limits	Medium
63	11th	B	Mathematics	Permutation & Combination	Principle of	Difficult

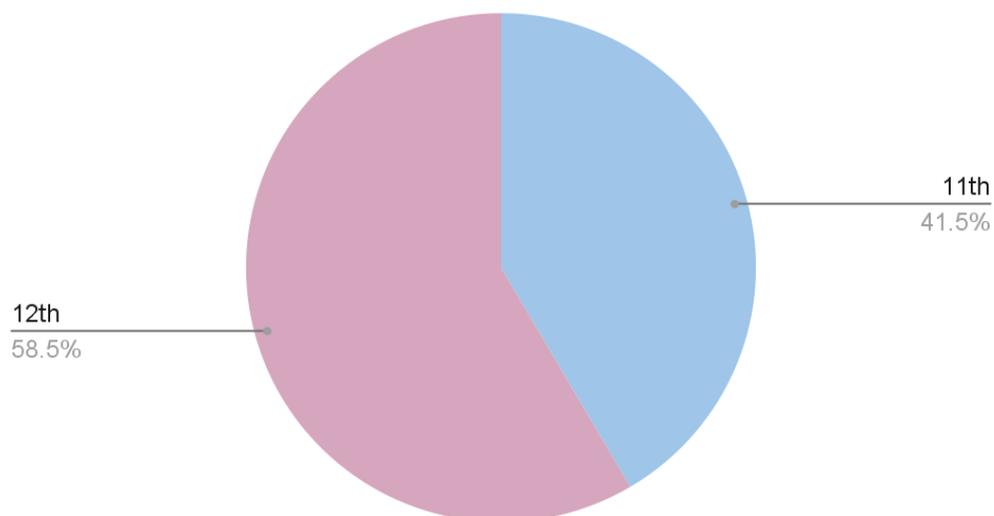|					Counting	
64	11th	B	Mathematics	Permutation & Combination	Principle of Counting	Easy
65	11th	B	Mathematics	Quadratic Equations	Nature of Roots	Medium
66	12th	B	Mathematics	Application of Integral	Area between two curves	Medium

Class Wise Distribution Level Analysis

As per our expert faculties the questions from **Class 12th syllabus dominated Class 11th syllabus**. Below is the Class wise question distribution table -

Subject	11th		12th	
	No. of Questions	**Total Marks**	**No. of Questions**	**Total Marks**
Physics	13	52	10	40
Chemistry	4	16	18	72
Mathematics	10	40	11	44
Grand Total	**27**	**108**	**39**	**156**

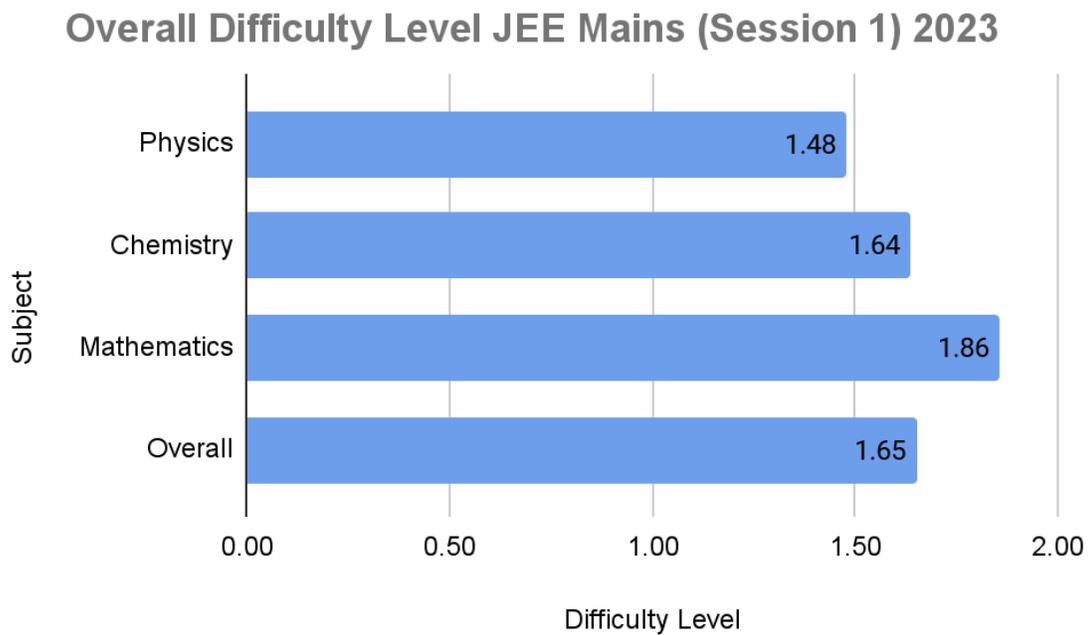Class Wise Distribution Analysis

11th 41.5%

12th 58.5%

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	1.48
Chemistry	1.64
Mathematics	1.86
Overall	**1.65**

Overall Difficulty Level JEE Mains (Session 1) 2023

Subject	Difficulty Level
Physics	1.48
Chemistry	1.64
Mathematics	1.86
Overall	1.65

Conclusion

The Overall Difficulty rating for **25th January JEE Mains Session 1 (Shift 1) 2023** was **1.65** 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 > Chemistry > Physics.