A Detailed Analysis of JEE Main (Session 1) 2023
<u>01st February, 2023 Shift 2 (3 PM - 6 PM)</u>
(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.

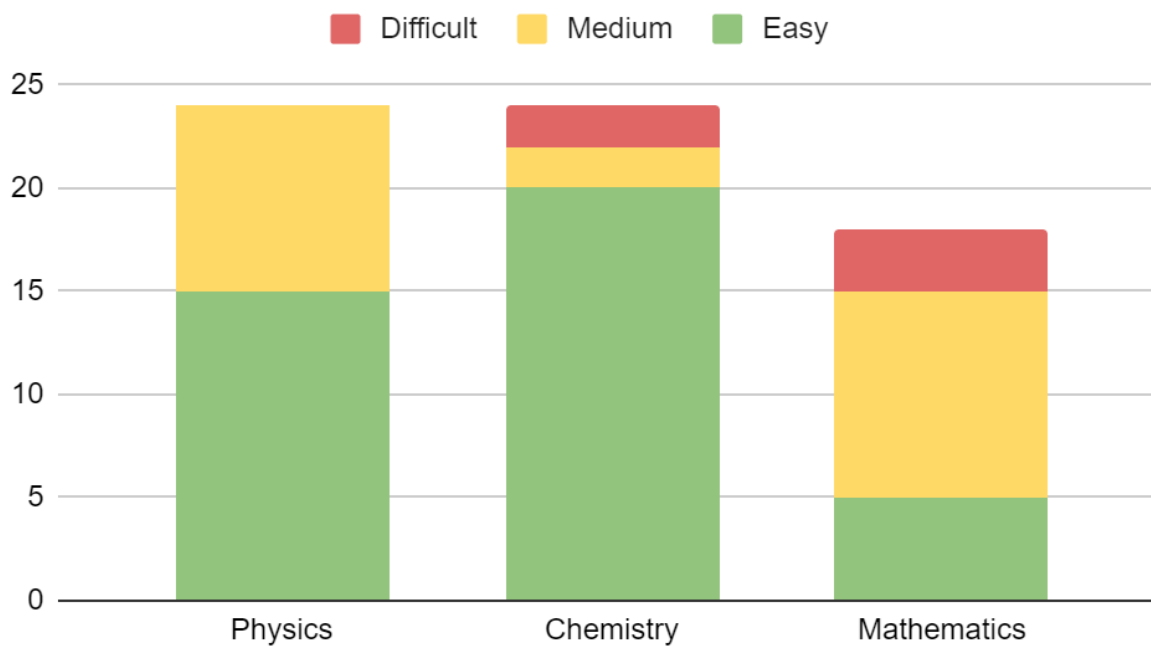### JEE Main Exam Pattern 2023: Paper 1 (B.E/B.Tech)

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, **24** questions in Physics, **24** questions in Chemistry and **18** 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	15	60	9	36	0	0	24	96
Chemistry	20	80	2	8	2	8	24	96
Mathematics	5	20	10	40	3	12	18	72
Grand Total	40	160	21	84	5	20	66	264

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	Gravitation	Acceleration due to garvity	Easy
2	12th	A	Physics	Atoms	Hydrogen Spectrum	Easy
3	11th	A	Physics	Mechanical Properties Of Solids	Young's Modulus	Medium
4	11th	A	Physics	Thermodynamics	Carnot's Engine	Medium
5	12th	A	Physics	Ray Optics & Optical Instruments	Spherical Mirrors	Medium
6	12th	A	Physics	Dual Nature Of Matter & Radiation	Photoelectric Effect	Easy
7	11th	A	Physics	Laws Of Motion	Friction	Easy
8	11th	A	Physics	Units & Measurements	Dimensional Analysis	Medium
9	11th	A	Physics	System Of Particles & Rotational Motion	Moment Of Inertia	Medium
10	11th	A	Physics	Oscillations	Simple Pendulum	Easy
11	12th	A	Physics	Current Electricity	Grouping Of Resistance	Easy
12	12th	A	Physics	Solids & Semiconductor Devices	Zener Diode	Easy
13	11th	A	Physics	Motion In A Straight Line	Stopping Distance	Easy
14	11th	A	Physics	Thermodynamics	Carnot's Engine	Medium
15	12th	A	Physics	Current Electricity	Grouping Of Cells	Easy
16	12th	A	Physics	Current Electricity	Voltmeter	Easy
17	11th	A	Physics	Kinetic Theory Of Gases	P T Curve	Easy
18	11th	A	Physics	Mechanical Properties Of Solids	Young's Modulus	Easy
19	12th	A	Physics	Wave Optics	Young's Double Slit Experiment	Medium
20	11th	A	Physics	Motion In A Plane	Projectile Motion	Easy
21	11th	B	Physics	Work Energy & Power	Work done by A Variable Force	Medium

22	12th	B	Physics	Electromagnetic Waves	Properties Of Electromagnetic Waves	Easy
23	12th	B	Physics	Moving Charges & Magnetism	Application Of Biot Savart's Law	Easy
24	12th	B	Physics	Moving Charges & Magnetism	Magnetic Field due to Current Loop	Medium

Chemistry

25	12th	A	Chemistry	P block elements-II	Group-15	Easy
26	12th	A	Chemistry	Solution	Colligative properties	Easy
27	12th	A	Chemistry	Coordination Compounds	Valence Bond Theory	Easy
28	12th	A	Chemistry	Hydrogen	Hydrogen Peroxide	Medium
29	12th	A	Chemistry	Surface Chemistry	Fruedlich Isotherm	Easy
30	12th	A	Chemistry	Chemistry in everyday Life	Traquilizers	Easy
31	11th	A	Chemistry	Periodic classification	Electron gain enthalpy	Easy
32	12th	A	Chemistry	Aldehyde,Ketones and carboxylic acids	Chemical reaction	Easy
33	12th	A	Chemistry	Coordination Compounds	Isomerism	Easy
34	11th	A	Chemistry	Hydrogen	Preparation of hydrogen peroxide	Easy
35	11th	A	Chemistry	Environmental Chemistry	Industrial Pollution	Easy
36	11th	A	Chemistry	Atomic structure	Explanation of Hydrogen line spectra	Easy
37	11th	A	Chemistry	s block elements	Important compounds of group-1 elements	Easy
38	11th	A	Chemistry	Thermodynamics	Types of enthalpy	Easy
39	11th	A	Chemistry	P block elements-I	Group 14	Easy
40	11th	A	Chemistry	Chemical equilibrium	Le- chatelier's principle	Easy
41	11th	A	Chemistry	Periodic classification	Isoelectronic species	Easy
42	12th	A	Chemistry	P block elements-II	Group 17	Easy
43	12th	A	Chemistry	Electrochemistry	Relationship between Limiting molar conductivity and solubility	Medium

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44	12th	A	Chemistry	P block elements-II	Group 17	Easy
45	12th	B	Chemistry	Biomolecules	Harmones	Difficult
46	12th	B	Chemistry	Solid state	Density	Easy
47	12th	B	Chemistry	Biomolecules	Vitamins	Difficult
48	12th	B	Chemistry	Chemical Kinetics	First order - Half life	Easy

Mathematics

49	11th	A	Mathematics	Binomial theorem	General term in binomial theorem	Easy
50	12th	A	Mathematics	Definite Integral	Property of D.I	Medium
51	12th	A	Mathematics	Application of Integral	Area under two curves	Medium
52	11th	A	Mathematics	Relation & Function	Replacement Property	Medium
53	12th	A	Mathematics	Continuity & Differentiability	Logarithmic Differentiation	Easy
54	11th	A	Mathematics	Mathematical Reasoning	Tautology	Easy
55	12th	A	Mathematics	Matrices & Determinants	System of Equations	Easy
56	12th	A	Mathematics	Matrices & Determinants	Algebra of matrices	Difficult
57	12th	A	Mathematics	Probability	Independent and Mutual exclusive	Medium
58	12th	A	Mathematics	Differential Equation	Homogeneoud D.E	Difficult
59	12th	A	Mathematics	Vector Algebra	Product of Vectors	Medium
60	12th	A	Mathematics	Inverse Trigonometric functions	Inequation	Medium
61	12th	A	Mathematics	Vector Algebra	Projection of vectors	Easy
62	11th	B	Mathematics	Permutation & Combinations	Number of integral Solutions	Medium
63	11th	B	Mathematics	Permutation & Combinations	Divisibility	Difficult
64	11th	B	Mathematics	Sequence & Series	Arithmetic Progression	Medium
65	12th	B	Mathematics	Appliction of Derivative	Maxima/Minima	Medium

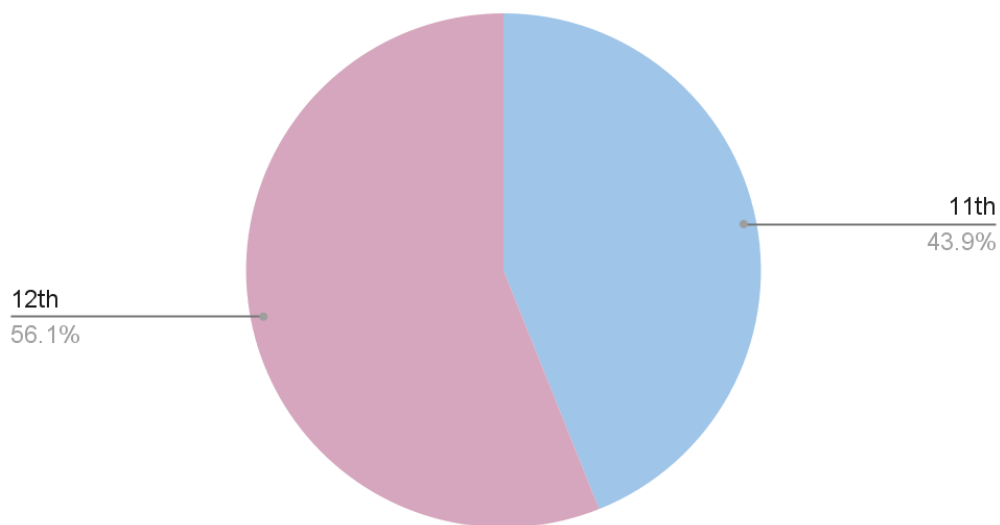| 66	11th	B	Mathematics	Statistics	Variance	Medium

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	11	44
Chemistry	9	36	15	60
Mathematics	7	28	11	44
Grand Total	29	116	37	148

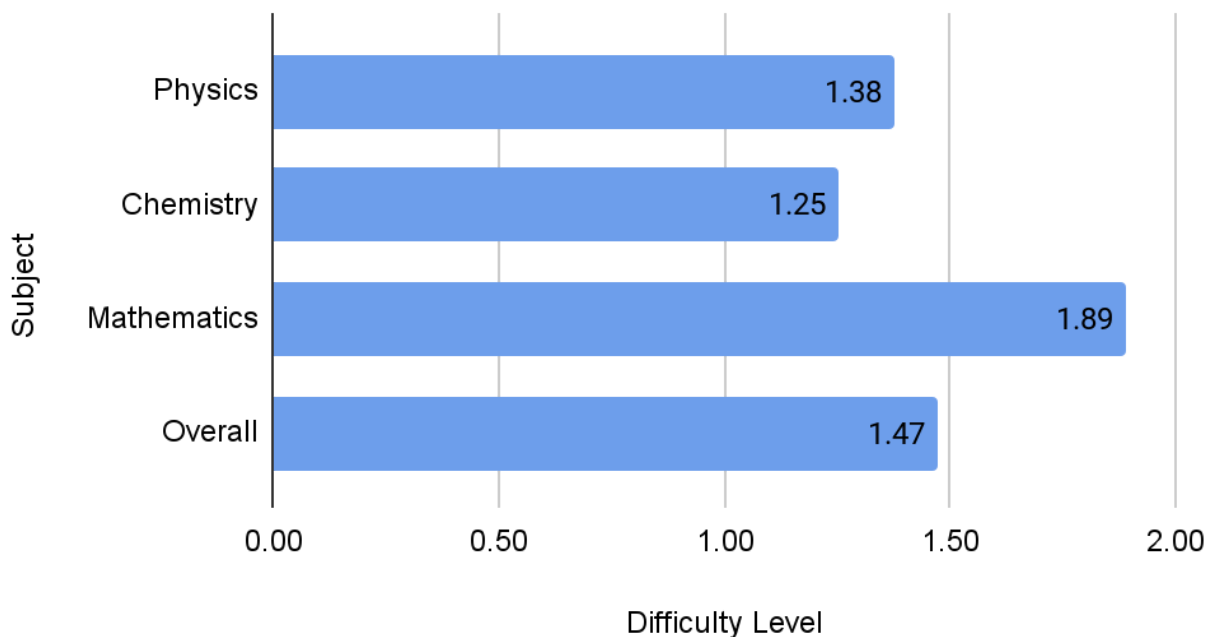## Class Wise Distribution Analysis

11th
43.9%

12th
56.1%

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	1.38
Chemistry	1.25
Mathematics	1.89
Overall	1.47

Overall Difficulty Level JEE Mains (Session 1) 2023

Subject	Difficulty Level
Physics	1.38
Chemistry	1.25
Mathematics	1.89
Overall	1.47

Conclusion

The Overall Difficulty rating for **01st February JEE Mains Session 1 (Shift 2) 2023** was **1.47** 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.