A Detailed Analysis of JEE Main (Session 1) 2023
30th January, 2023 Shift 2 (3 PM - 6 PM)
(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, **22** questions in Physics, **23** questions in Chemistry and **23** 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	13	52	9	36	0	0	22	88
Chemistry	18	72	5	20	0	0	23	92
Mathematics	8	32	9	36	6	24	23	92
Grand Total	**39**	**156**	**23**	**92**	**6**	**24**	**68**	**272**

Subject Wise Difficulty Level Analysis
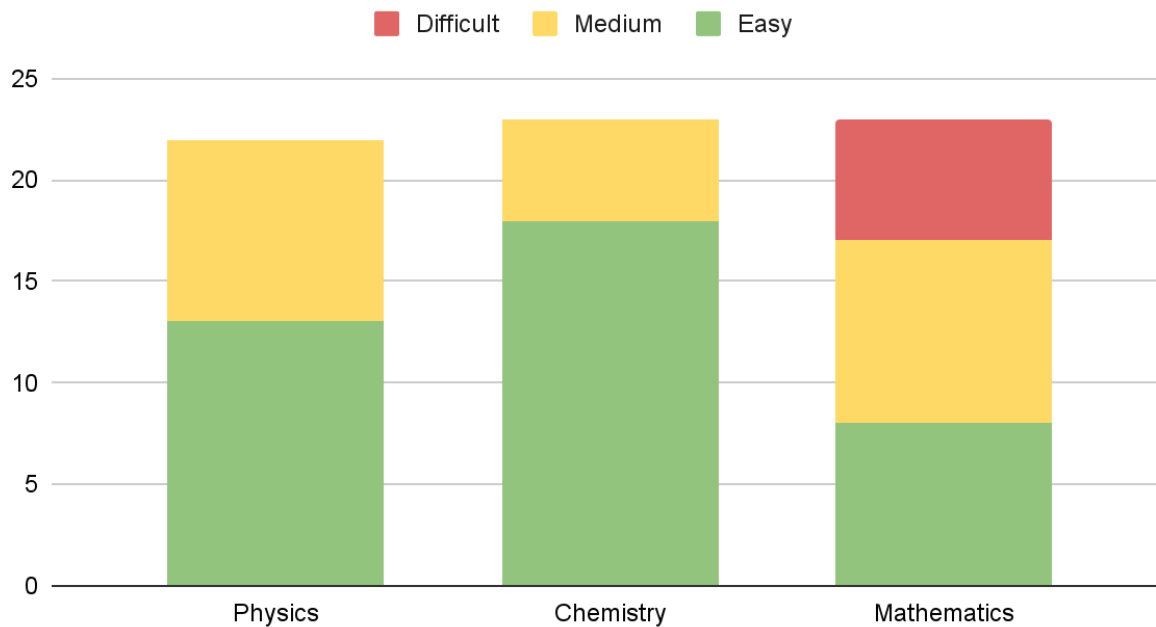
Question Wise Distribution Analysis

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	12th	A	Physics	Current Electricity	Grouping Of Resistance	Medium
2	11th	A	Physics	Motion In A Straight Line	Average Speed	Easy
3	12th	A	Physics	Moving Charges & Magnetism	Application Of Biot Savart's Law	Easy
4	11th	A	Physics	Gravitation	Gravitational Potential Energy	Medium
5	11th	A	Physics	Thermal Properties Of Matter	Temperature Measurement	Easy
6	11th	A	Physics	Laws Of Motion	Connected Motion	Easy
7	12th	A	Physics	Alternating Current	RMS Value of AC	Medium
8	12th	A	Physics	Electric Charge & Fields	Application Of Gauss Law	Medium
9	11th	A	Physics	Oscillations	SHM	Easy
10	12th	A	Physics	Solids & Semiconductor Devices	Logic Gates	Medium
11	11th	A	Physics	Work Energy & Power	Power	Easy
12	11th	A	Physics	Units & Measurements	Dimensional Analysis	Medium
13	11th	A	Physics	Thermodynamics	Carnot Engine	Easy
14	12th	A	Physics	Electric Charges & Fields	Gauss Law	Medium
15	12th	A	Physics	Dual Nature Of Matter & Radiation	de Broglie Hypothesis	Easy
16	12th	A	Physics	Communication System	Elements Of Communication	Easy
17	12th	B	Physics	Current Electricity	Wheat Stone Bridge	Easy
18	12th	B	Physics	Wave Optics	Superposition Principle	Medium
19	11th	B	Physics	Laws Of Motion	Conservation Of Momentum	Easy
20	11th	B	Physics	Kinetic Theory Of Gases	RMS Speed	Easy
21	11th	B	Physics	Oscillations	Time Period Of Oscillation	Medium

				Ray Optics & Optical Instruments	Prism Combinations	Easy
22	12th	B	Physics			

Chemistry

23	11th	A	Chemistry	Atomic structure	Electronic configuration	Easy
24	11th	A	Chemistry	Environmental Chemistry	Water pollutants	Easy
25	11th	A	Chemistry	s- block elements	Solubility	Easy
26	12th	A	Chemistry	P-block elements-II	Group-16	Easy
27	12th	A	Chemistry	Alcohol,Phenol and ether	Acidic strength	Easy
28	12th	A	Chemistry	Coordination Compounds	Isomerism	Easy
29	12th	A	Chemistry	General Organic Chemistry	Stability of resonating structure	Medium
30	11th	A	Chemistry	Haloalkanes and Halorenes	Nucleophilic substitution	Medium
31	12th	A	Chemistry	Solution	Colligative properties	Easy
32	12th	A	Chemistry	d and f block elements	Potassium permanganate	Easy
33	11th	A	Chemistry	s block elements	Chemical properties	Easy
34	12th	A	Chemistry	Coordination Compounds	Valence Bond Theory	Easy
35	12th	A	Chemistry	Chemistry in everyday life	Classification of drugs	Easy
36	12th	A	Chemistry	Metallurgy	Extraction of Aluminum	Easy
37	12th	A	Chemistry	P-block elements-II	Chemical properties	Easy
38	11th	A	Chemistry	P-block elements-I	Orthoboric acid	Easy
39	11th	A	Chemistry	s- block elements	Lithium compounds	Easy
40	11th	A	Chemistry	Atomic structure	Planck Theory	Easy
41	12th	B	Chemistry	Electrochemistry	Nernst equation	Medium
42	12th	B	Chemistry	Solid state	Density equation	Medium
43	12th	B	Chemistry	Chemical Kinetics	First order kinetics	Easy
44	11th	B	Chemistry	Thermodynamics	Work	Easy
45	11th	B	Chemistry	Hydrogen	Hydrogen Peroxide	Medium

Mathematics

46	11th	A	Mathematics	Conic	Common tangent	Medium
47	11th	A	Mathematics	Limits	Basic limit	Medium
48	12th	A	Mathematics	Vector	Product of two vectors	Easy
49	12th	A	Mathematics	Integration	Integration as a limit of a sum	Easy
50	12th	A	Mathematics	Relations and functions	Range	Easy
51	12th	A	Mathematics	Inverse trigonometric functions	Series	Easy
52	11th	A	Mathematics	Binomial Theorem	Integral part	Difficult
53	11th	A	Mathematics	Mathematical reasoning	Equivalent statement	Easy
54	11th	A	Mathematics	Application of Integrals	Area	Difficult
55	12th	A	Mathematics	DIfferential Equation	Homogenous differential	Difficult
56	11th	A	Mathematics	Probability	Intorduction	Difficult
57	11th	A	Mathematics	Sequence	Geometric progression	Medium
58	11th	A	Mathematics	Statistics	Mean deviation	Medium
59	12th	A	Mathematics	Matrices	Adjoint	Medium
60	12th	A	Mathematics	Application of derivatives	Maxima minima	Medium
61	11th	B	Mathematics	Sequence and series	Arithmathic progression	Easy
62	11th	B	Mathematics	Permutation and combination	Permutaion of similar objects	Easy
63	11th	B	Mathematics	Binomial Theorem	Divisibility	Medium
64	11th	B	Mathematics	Basic mathematics	Divisibility	Difficult
65	12th	B	Mathematics	3D Geometry	Distance of a point from a line	Medium
66	12th	B	Mathematics	Application of Integrals	Area bounded by curves	Easy
67	12th	B	Mathematics	Realations and functions	No. of functions	Medium
68	11th	B	Mathematics	Circle	Equation of circle	Difficult

Class Wise Distribution Level Analysis

As per our expert faculties the questions from **equally distributed from class 11th and Class 12th**. Below is the Class wise question distribution table -

Subject	11th		12th	
	No. of Questions	Total Marks	No. of Questions	Total Marks
Physics	11	44	11	44
Chemistry	10	40	13	52
Mathematics	13	52	10	40
Grand Total	34	136	34	136

Class Wise Distribution Analysis
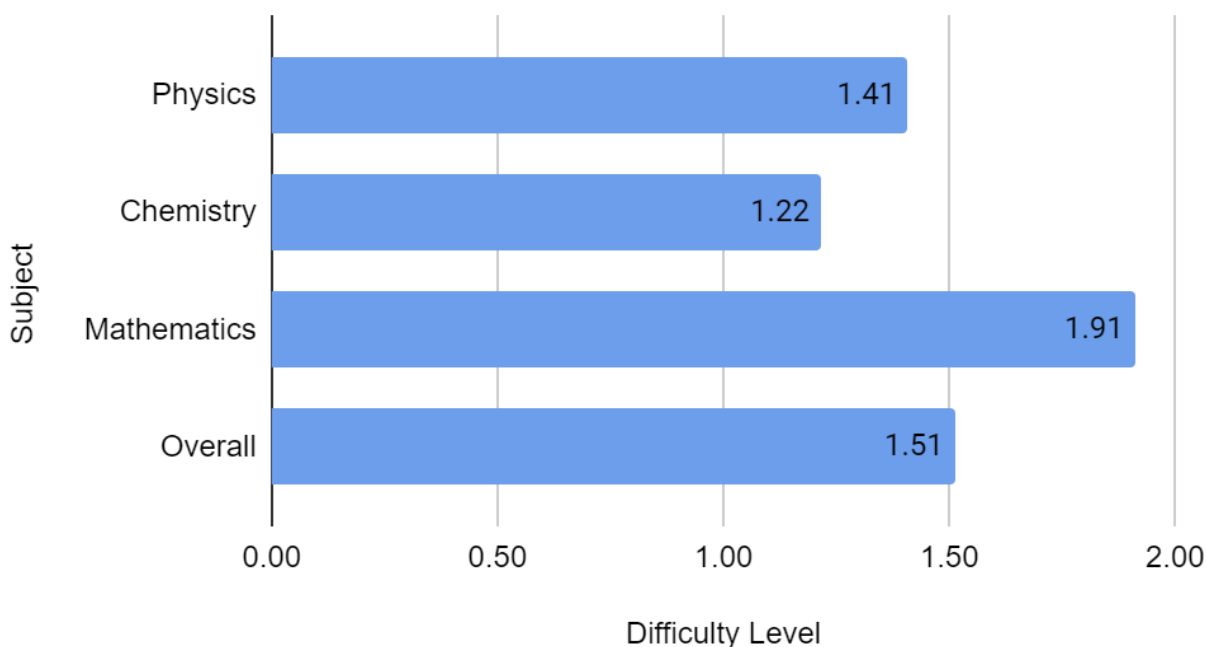
11th
50.0%

12th
50.0%
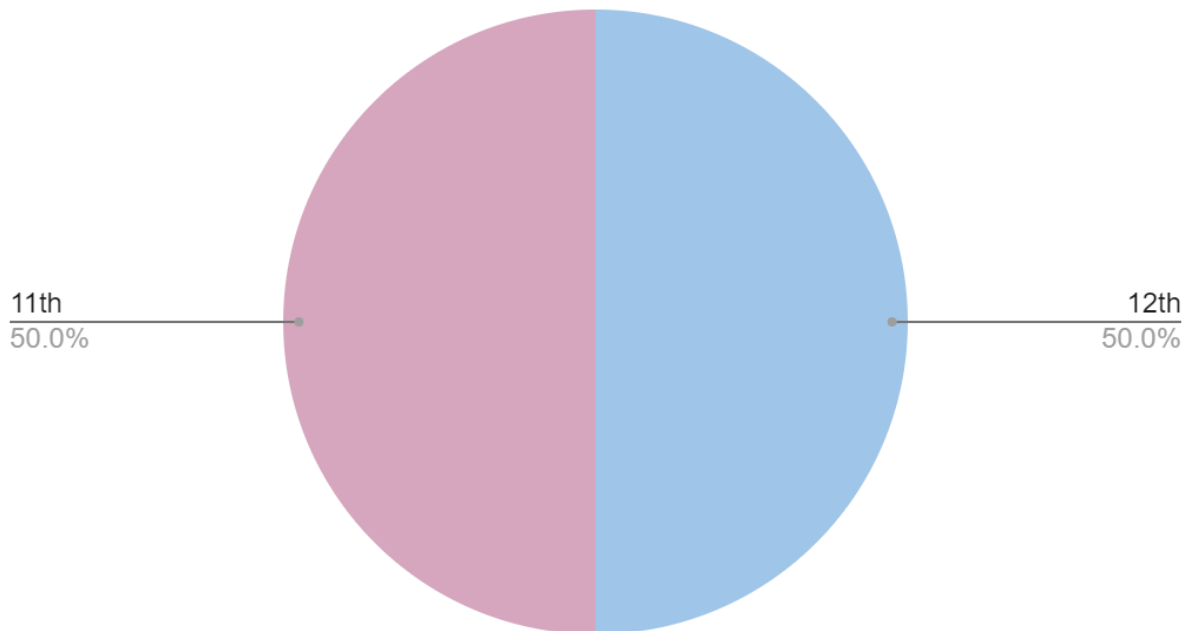
Overall Difficulty Level Analysis

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	1.41
Chemistry	1.22
Mathematics	1.91
Overall	1.51

Conclusion

The Overall Difficulty rating for **30th January JEE Mains Session 1 (Shift 2) 2023** was **1.51** 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.