A Detailed Analysis of JEE Main (Session 1) 2023
<u>30th January, 2023 Shift 1 (9 AM - 12 Noon)</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 **67 questions out of 90 questions** i.e, **25** questions in Physics, **23** questions in Chemistry and **19** 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	2	8	25	100
Chemistry	19	76	3	12	1	4	23	92
Mathematics	4	16	12	48	3	12	19	76
Grand Total	37	148	24	96	6	24	67	268

Subject Wise Difficulty Level Analysis
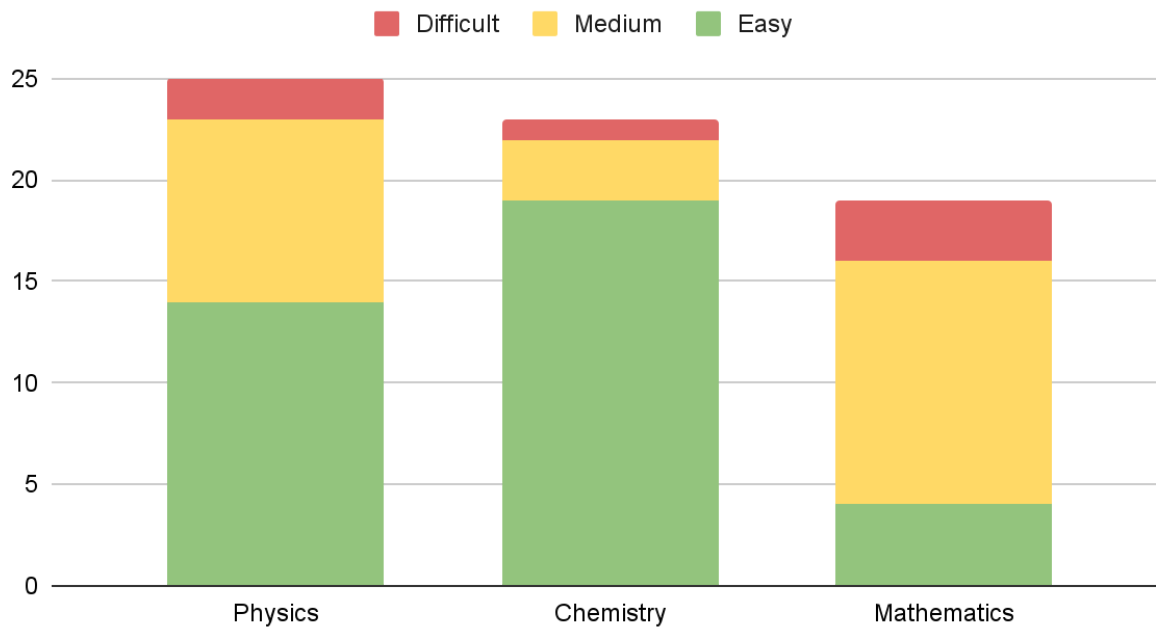
Question Wise Distribution Analysis

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	Work Energy & Power	Elastic Collosion	Easy
2	11th	A	Physics	Mechanical Properties Of Solids	Relation between Modulus of Elasticities	Medium
3	12th	A	Physics	Electrostatic Potential & Capacitance	Electrostatics Of Conductors	Easy
4	11th	A	Physics	Motion In A Straight Line	Velocity Time Graph	Easy
5	11th	A	Physics	Thermodynamics	Thremodynamic Process	Medium
6	11th	A	Physics	Thermal Properties Of Matter	Conduction Of Heat	Difficult
7	11th	A	Physics	Laws Of Motion	Newton's Second Law	Easy
8	11th	A	Physics	Motion In A Straight Line	Average Speed	Easy
9	11th	A	Physics	Laws Of Motion	Conservation Of Momentum	Medium
10	12th	A	Physics	Alternating Current	Power Factor	Medium
11	12th	A	Physics	Electromagnetic Waves	Momentum Transfer by EM Waves	Easy
12	12th	A	Physics	Atoms	Bohr's Theory	Easy
13	11th	A	Physics	Units & Measurements	Units	Easy
14	12th	A	Physics	Moving Charges & Magnetism	Magnetic Dipole Moment	Easy
15	11th	A	Physics	Thermodynamics	Thremodynamic Process	Medium
16	12th	A	Physics	Solids & Semiconductor Devices	Logic Gates	Easy
17	12th	A	Physics	Wave Optics	Young's Double Slit Experiment	Medium

18	11th	A	Physics	Mechanical Properties Of Fluids	Ascent Formula	Easy
19	12th	A	Physics	Communication System	Amplitude Modulation	Easy
20	12th	B	Physics	Electromagnetic Induction	LR Circuit	Easy
21	11th	B	Physics	Oscillations	Time Period Of SHM	Medium
22	12th	B	Physics	Moving Charges & Magnetism	Force on a current Carrying Conductor in Magnetic Field	Medium
23	11th	B	Physics	Kinetic Theory Of Gases	Change In Inyternal Energy	Easy
24	12th	B	Physics	Ray Optics & Optical Instruments	Focal Lenagth Of Concave Mirror	Difficult
25	12th	B	Physics	Current Electricity	Electrical Circuits	Medium

Chemistry

26	12th	A	Chemistry	Polymers	Caprolectum	Easy
27	11th	A	Chemistry	Some basic concept of Chemistry	Molarity	Easy
28	12th	A	Chemistry	d and f block elements	Potassium dichromate	Easy
29	11th	A	Chemistry	Chemical bonding	VSEPR Theory	Easy
30	11th	A	Chemistry	s- block elements	Solubility in water	Easy
31	12th	A	Chemistry	P block elements	Group -16	Easy
32	12th	A	Chemistry	Coordination Compounds	Applications of Complex compounds	Easy
33	11th	A	Chemistry	Atomic Structure	Bohr Model	Easy
34	11th	A	Chemistry	Periodic classification	Identification of groups,blocks and periods	Easy
35	11th	A	Chemistry	Environmental Chemistry	Pollutants	Easy
36	12th	A	Chemistry	Haloalkanes and haloarenes	Name reactions	Easy
37	11th	A	Chemistry	Thermodynamics	Internal energy	Easy
38	12th	A	Chemistry	Coordination Compounds	Spectrochemical series	Easy
39	11th	A	Chemistry	General Organic Chemistry	Acidic strength	Medium
40	12th	A	Chemistry	Chemistry in everyday	Antacids	Easy

					life		
41	12th	A	Chemistry	Metallurgy	Copper extraction	Easy
42	12th	A	Chemistry	Biomolecules	Selliwanoff test	Difficult
43	11th	A	Chemistry	Hydrocarbons	Oxidation of alkanes	Easy
44	12th	B	Chemistry	Electrochemistry	Nernst equation	Medium
45	12th	B	Chemistry	d and f block elements	Chemical properties of Potassium permanganate	Easy
46	11th	B	Chemistry	Ionic equilibrium	pH	Medium
47	12th	B	Chemistry	Solutions	Colligative properties	Easy
48	12th	B	Chemistry	Chemical Kinetics	First order reaction	Easy

Mathematics

49	11th	A	Mathematics	Binomial Theorem	Binomial Sequences	Easy
50	11th	A	Mathematics	Trigonometric function	Trigonometric ration of allied angles	Easy
51	12th	A	Mathematics	Relation and function	types of relations	Medium
52	11th	A	Mathematics	Parabola	Normal	Difficult
53	12th	A	Mathematics	Area	Area between curves	Medium
54	11th	A	Mathematics	Probability	Introduction	Medium
55	12th	A	Mathematics	Relations and function	One -one functions	Easy
56	11th	A	Mathematics	Straight line	Normal form	Easy
57	12th	A	Mathematics	Differential equation	Linear differentail eqaution	Difficult
58	12th	A	Mathematics	Integrations	Definite integrations	Difficult
59	12th	A	Mathematics	Vectors	Different product of vectors	Medium
60	12th	B	Mathematics	Integrations	Leibnetz rule	Medium
61	11th	B	Mathematics	Sequence and series	Vn method	Medium
62	11th	B	Mathematics	Complex numbers	Arguments	Medium
63	11th	B	Mathematics	Statistics	Mean and Variance	Medium
64	12th	B	Mathematics	Binomial theorem	General term	Medium
65	11th	B	Mathematics	Permutations and Combinations	Permutations	Medium

66	12th	B	Mathematics	Relations and function	FUnctional equation	Medium
67	11th	B	Mathematics	Trigonometric	trigonometric equation	Medium

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	13	52	12	48
Chemistry	10	40	13	52
Mathematics	10	40	9	36
Grand Total	**33**	**132**	**34**	**136**

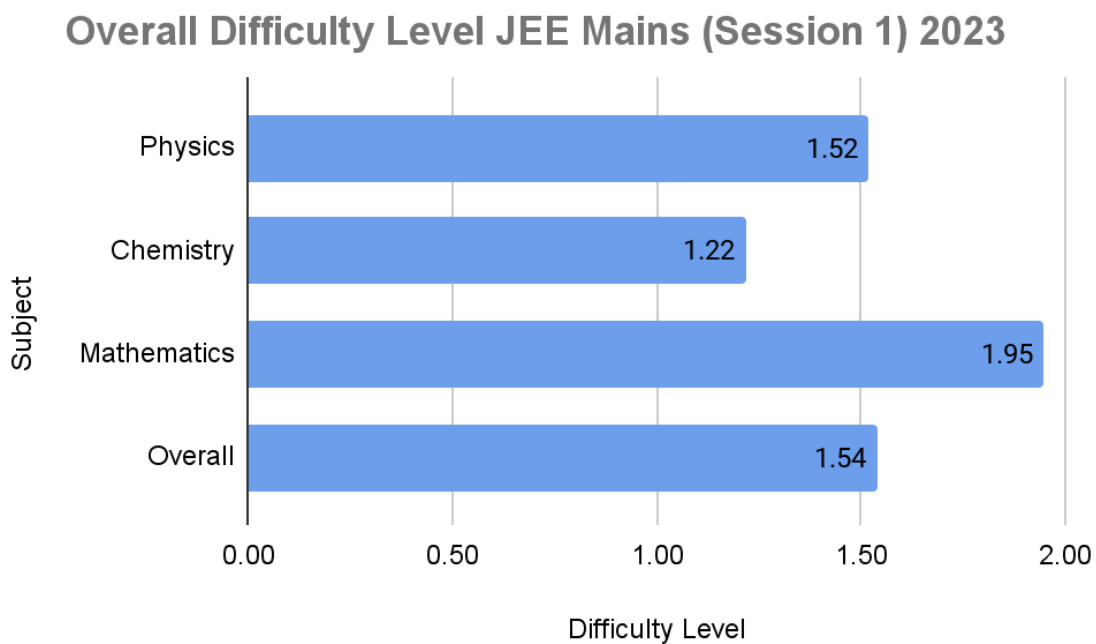# Class Wise Distribution Analysis

12th
50.7%

11th
49.3%
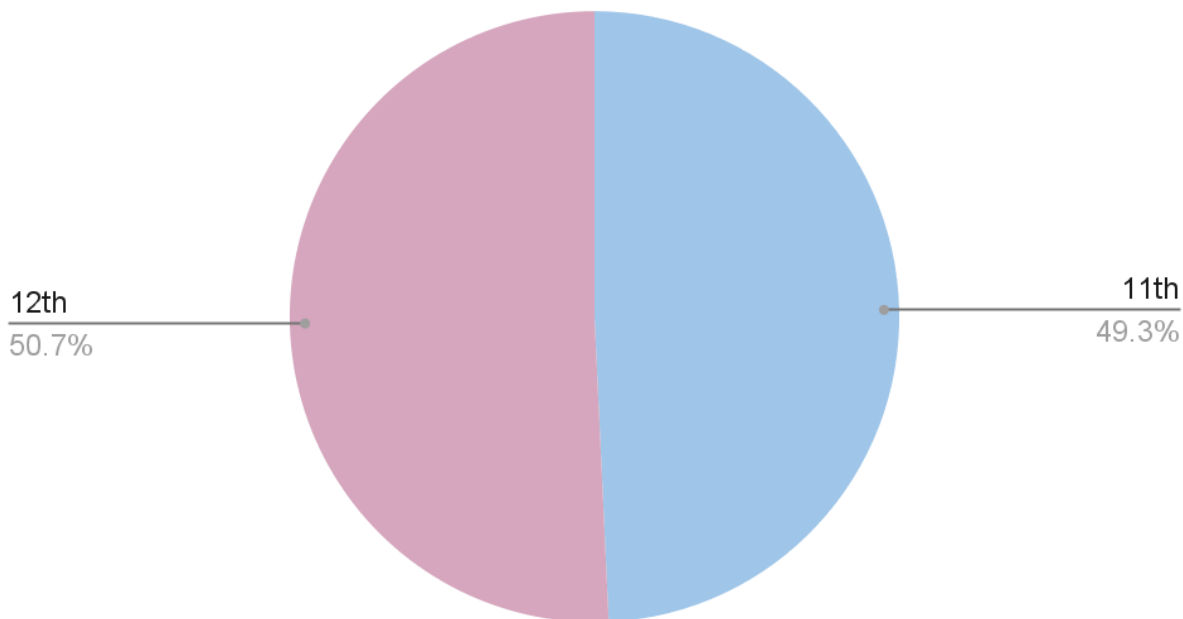
Overall Difficulty Level Analysis

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	1.52
Chemistry	1.22
Mathematics	1.95
Overall	**1.54**

Overall Difficulty Level JEE Mains (Session 1) 2023

Physics — 1.52
Chemistry — 1.22
Mathematics — 1.95
Overall — 1.54

(Difficulty Level axis: 0.00, 0.50, 1.00, 1.50, 2.00; Subject on Y-axis)

Conclusion

The Overall Difficulty rating for **30th January JEE Mains Session 1 (Shift 1) 2023** was **1.54** 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.