

A Detailed Analysis of JEE Main (Session 1) 2023

31st 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.

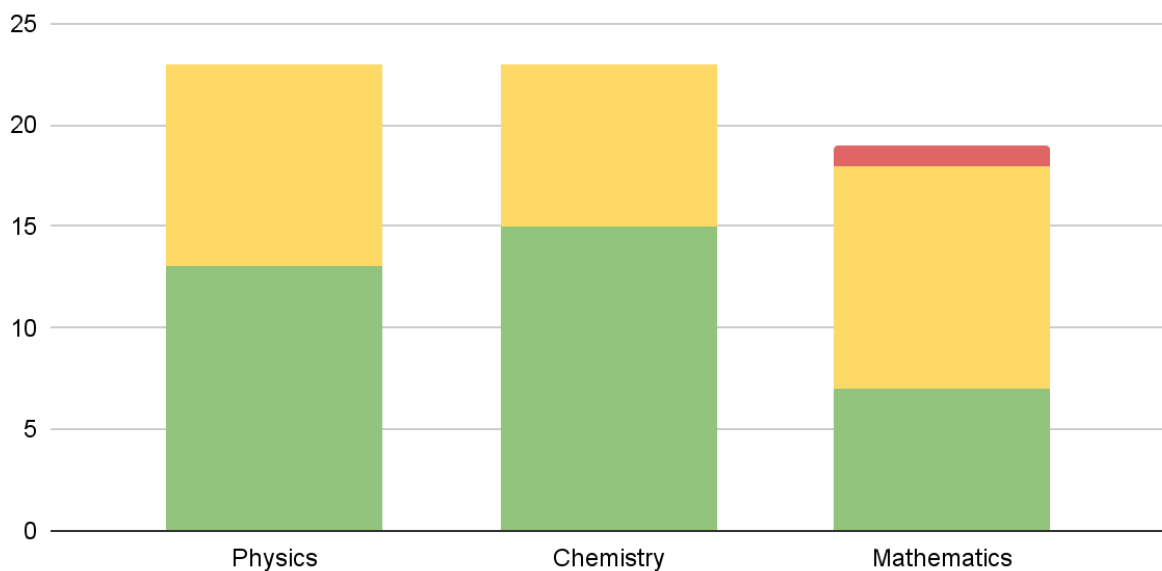
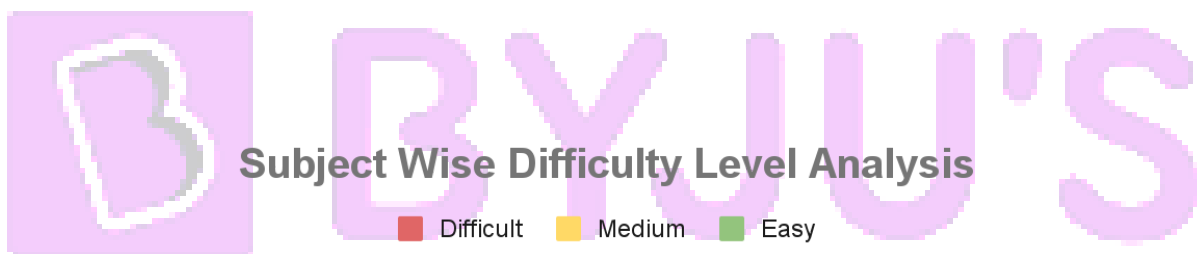
JEE Main Exam Pattern 2023: Paper 1 (B.E/B.Tech)

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 **65 questions out of 90 questions** i.e, **23** 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	13	52	10	40	0	0	23	92
Chemistry	15	60	8	32	0	0	23	92
Mathematics	7	28	11	44	1	4	19	76
Grand Total	35	140	29	116	1	4	65	260



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	Electromagnetic Waves	Uses Of Electromagnetic Waves	Easy
2	11th	A	Physics	Thermodynamics	First Law Of Thermodynamics	Easy
3	11th	A	Physics	Motion In A Plane	Projectile Motion	Medium
4	12th	A	Physics	Atoms	Bohr's Theory Applied to Hydrogen Atom	Easy
5	11th	A	Physics	Laws Of Motion	Connected Motion	Easy
6	11th	A	Physics	Units & Measurements	Dimensional Analysis	Medium
7	11th	A	Physics	Oscillations	Superposition Of SHM	Medium
8	11th	A	Physics	Motion In A Plane	Projectile Motion	Medium
9	11th	A	Physics	Gravitation	Variation In Acceleration Due to Gravity	Easy
10	12th	A	Physics	Moving Charges & Magnetism	Application Of Biot Savart's Law	Medium
11	11th	A	Physics	Waves	Speed Of Sound Waves	Easy
12	12th	A	Physics	Current Electricity	Electrical Power	Easy
13	12th	A	Physics	Alternating Current	AC Applied to Inductor	Easy
14	12th	A	Physics	Ray Optics & Optical Instruments	Lens Maker's Formula	Medium
15	12th	A	Physics	Moving Charges & Magnetism	Moving Coil Galvanometer	Medium
16	12th	A	Physics	Solids & Semiconductor Devices	Transistors	Easy
17	12th	A	Physics	Electrostatic Potential & Capacitance	Potential & Field Due to a group Of charges	Medium
18	12th	B	Physics	Alternating Current	LCR Circuit	Easy
19	12th	B	Physics	System Of Particles & Rotational Motion	Moment Of Inertia	Medium

20	11th	B	Physics	Laws Of Motion	Friction	Easy
21	11th	B	Physics	Work Energy & Power	Inelastic Collision	Easy
22	11th	B	Physics	Motion In A Plane	Circular Motion	Easy
23	12th	B	Physics	Wave Optics	Young's Double Slit Experiment	Medium

Chemistry

24	11th	A	Chemistry	Chemical Bonding	VSEPR Theory	Easy
25	11th	A	Chemistry	Some basic concept of Organic Chemistry	Quantitative analysis	Medium
26	11th	A	Chemistry	s block elements	Biological importance of s block elements	Easy
27	12th	A	Chemistry	Haloalkanes and Haloarenes	Compounds of chlorine	Medium
28	11th	A	Chemistry	P block elements-I	Halides of Boron	Easy
29	12th	A	Chemistry	Environmental Chemistry	Acid rain	Easy
30	11th		Chemistry	d and f block elements	electronic configuration	Medium
31	11th	A	Chemistry	Atomic structure	Bohr model	Easy
32	12th	A	Chemistry	Chemistry in everyday life	Disinfectants	Easy
33	12th	A	Chemistry	Chemical Kinetics	first order kinetics	Easy
34	11th	A	Chemistry	Ionic equilibrium	Solubility product	Easy
35	11th	A	Chemistry	Atomic structure	Quantum numbers	Easy
36	11th	A	Chemistry	Atomic structure	Photoelectric effect	Medium
37	12th	A	Chemistry	Biomolecules	Carbohydrates	Medium
38	12th	A	Chemistry	Solution	Colligative properties	Easy
39	12th	A	Chemistry	d and f block elements	Ionisation enthalpy	Medium
40	12th	A	Chemistry	Amines	Test of Primary amines	Easy
41	11th	A	Chemistry	Atomic structure	Plank Quantum theory	Easy
42	11th	A	Chemistry	Redox reaction	Indicators	Medium
43	12th	B	Chemistry	Aldehyde, Ketones and carboxylic acid	Iodoform test	Medium
44	11th	B	Chemistry	Some basic concept of chemistry	Mole concept	Easy

45	12th	B	Chemistry	Solid state	Non-stoichiometric defect	Easy
46	12th	B	Chemistry	Electrochemistry	Molar conductivity	Easy

Mathematics

47	12th	A	Mathematics	Vectors	Vector Equations	Medium
48	12th	A	Mathematics	Relations & Functions	Range	Easy
49	12th	A	Mathematics	Relations & Functions	Types of Relations	Medium
50	12th	A	Mathematics	Integrals	Indefinite Integration	Easy
51	11th	A	Mathematics	Limits and Derivatives	Infinite Limits	Easy
52	12th	A	Mathematics	Three Dimensional Geometry	Plane	Medium
53	11th	A	Mathematics	Complex Numbers and Quadratic Equations	Modulus & Argument	Medium
54	12th	A	Mathematics	Inverse Trigonometric Functions	Inequation	Medium
55	11th	A	Mathematics	Mathematical Reasoning	Conditional Statement	Medium
56	12th	A	Mathematics	Vectors	Product of Two Vectors	Medium
57	11th	A	Mathematics	Permutations and Combinations	Multiplication Rule	Easy
58	12th	A	Mathematics	Application of Derivative	Maxima & Minima	Medium
59	11th	A	Mathematics	Conic Sections	Hyperbola	Easy
60	12th	A	Mathematics	Matrices	Solutions to System of Equations	Medium
61	11th	B	Mathematics	Binomial Theorem	Coefficient of Term	Easy
62	11th	B	Mathematics	Sequence and Series	Sum to n Terms of The Special Series	Medium
63	12th	B	Mathematics	Permutations and Combinations	Division into Groups	Difficult
64	11th	B	Mathematics	Permutations and Combinations	Introduction	Easy
65	12th	B	Mathematics	Integrals	Properties of Definite Integrals	Medium

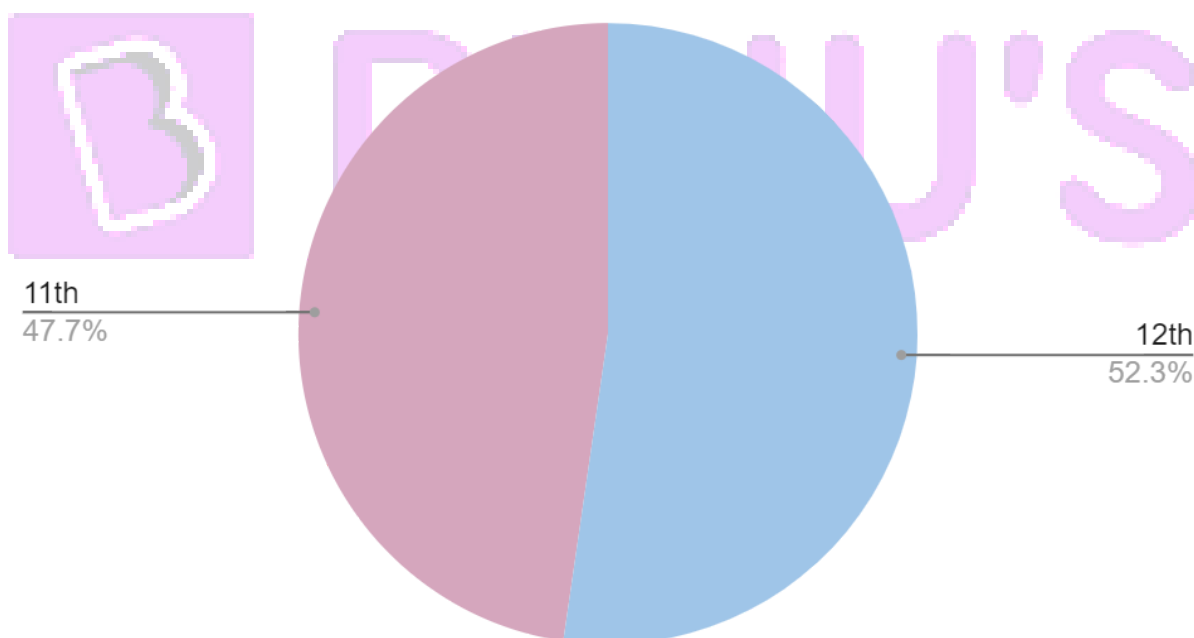
Class Wise Distribution Level Analysis

As per our expert faculties the questions from **idencally distributed from class 11th and Class 12th but overall Class 12th dominant the paper.**

Below is the Class wise question distribution table -

Subject	11th		12th	
	No. of Questions	Total Marks	No. of Questions	Total Marks
Physics	11	44	12	48
Chemistry	12	48	11	44
Mathematics	8	32	11	44
Grand Total	31	124	34	136

Class Wise Distribution Analysis

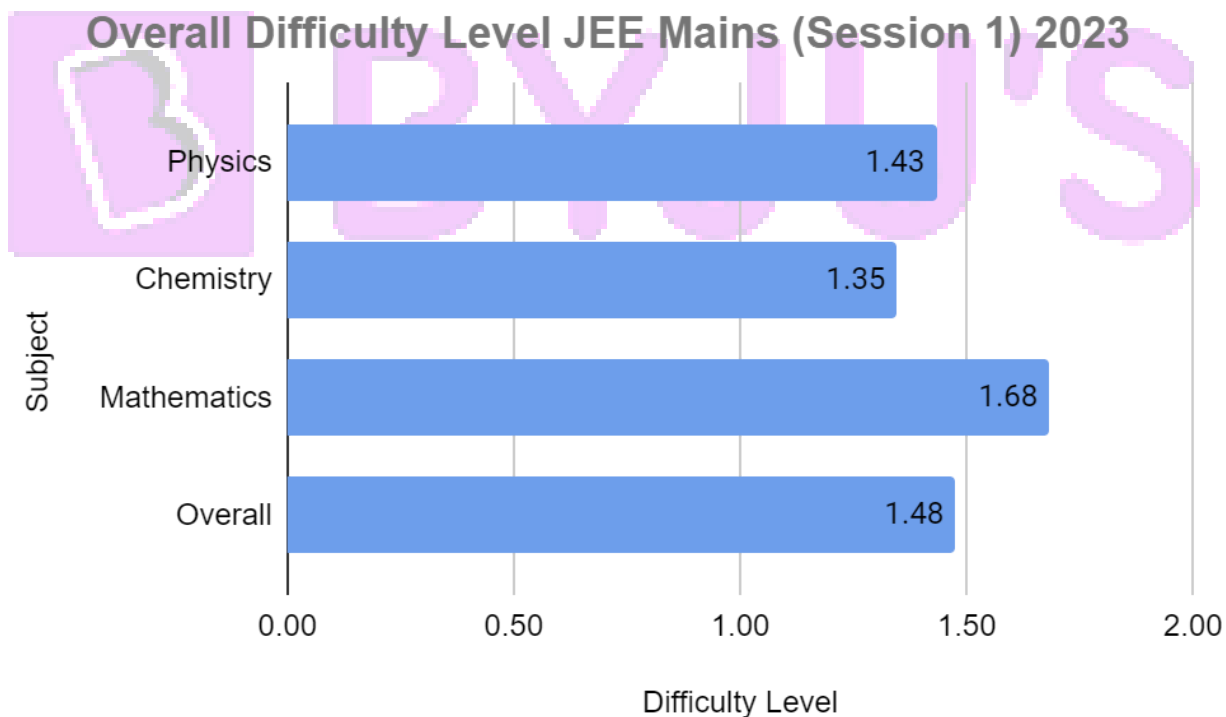


Overall Difficulty Level Analysis

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	1.43
Chemistry	1.35
Mathematics	1.68
Overall	1.48



Conclusion

The Overall Difficulty rating for **31th January JEE Mains Session 1 (Shift 2) 2023** was **1.48** 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.