

**A Detailed Analysis of JEE Main (Session 1) 2023**  
**25th 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  $\leq 90$  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.

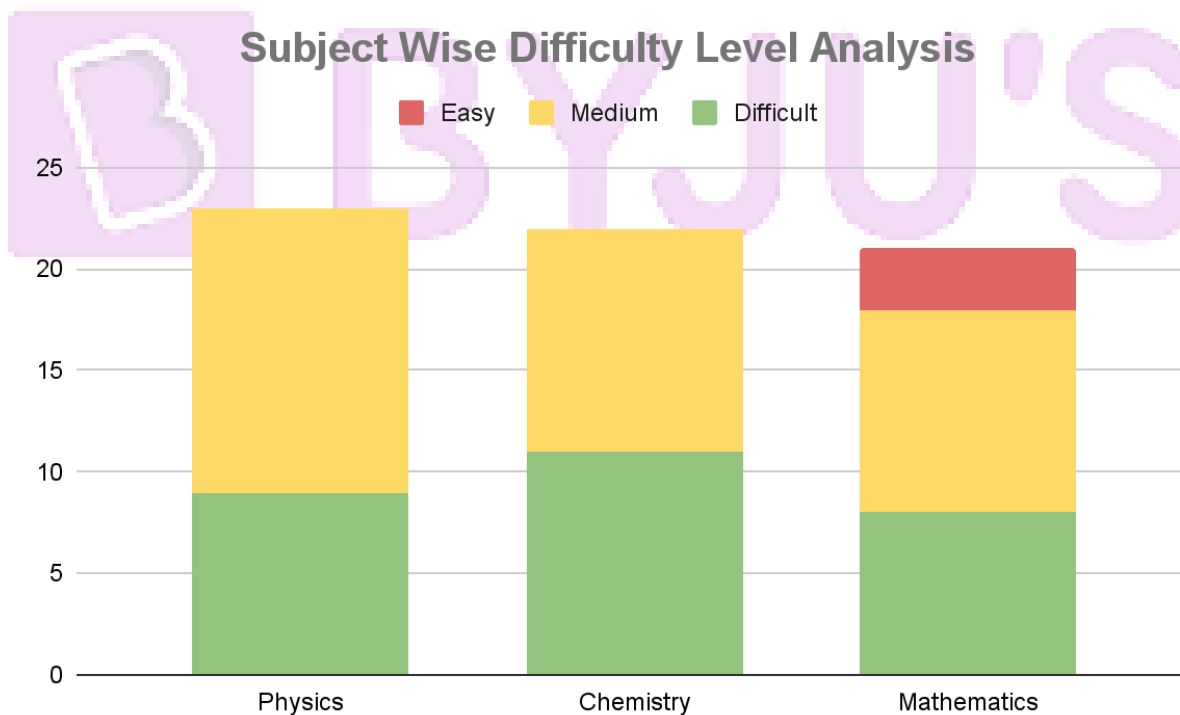
**JEE Main Exam Pattern 2023: Paper 1 (B.E/B.Tech)**

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.  <b>Total: 75 Questions (25 questions in each subject)</b>
JEE Mains Total Marks	<b>300 Marks</b>
JEE Main Marking Scheme	<b>MCQs:</b> Four marks will be awarded for each correct answer and there will be a negative marking of one mark on each wrong answer. <b>Questions with numerical value answers:</b> 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	9	36	14	56	0	0	23	92
Chemistry	11	44	11	44	0	0	22	88
Mathematics	8	32	10	40	3	12	21	84
<b>Grand Total</b>	<b>28</b>	<b>112</b>	<b>35</b>	<b>140</b>	<b>3</b>	<b>12</b>	<b>66</b>	<b>264</b>



## 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	Resistance	Easy
2	11th	A	Physics	Motion In A Straight Line	Velocity Time Relation	Easy
3	11th	A	Physics	Oscillations	SHM	Medium
4	11th	A	Physics	Gravitation	Variation In Potential Energy	Medium
5	12th	A	Physics	Electric Charges & Fields	Electric Field	Easy
6	12th	A	Physics	Atoms	Hydrogen Spectrum	Easy
7	12th	A	Physics	Moving Charges & Magnetism	Application of Biot Savart's Law	Medium
8	12th	A	Physics	Alternating Current	Power Factor	Medium
9	11th	A	Physics	System Of Particles & Rotational Motion	Moment Of Inertia	Medium
10	11th	A	Physics	Motion In A Plane	Projectile Motion	Easy
11	11th	A	Physics	Kinetic Theory Of Gases	Degree Of Freedom	Easy
12	11th	A	Physics	Laws Of Motion	Friction On Inclined Plane	Medium
13	11th	A	Physics	Units & Measurements	Dimensions	Medium
14	11th	A	Physics	Mechanical Properties Of Fluids	Surface Tension	Medium
15	12th	A	Physics	Electromagnetic Waves	Maxwell's Equations	Easy
16	12th	A	Physics	Nuclei	Nuclear Fission	Medium
17	11th	A	Physics	Thermodynamics	Thermodynamic Processes	Medium
18	12th	A	Physics	Ray Optics & Optical Instruments	Plane Mirror	Easy
19	12th	B	Physics	Current Electricity	Grouping Of Cells	Medium
20	12th	B	Physics	Electromagnetic Induction	Motional EMF	Easy
21	12th	B	Physics	Ray Optics & Optical Instruments	Lens Mirror Combination	Medium
22	12th	B	Physics	Electrostatic Potential &	Capacity Of Capacitor	Medium

				Capacitance		
23	11th	B	Physics	Work Energy & Power	Elastic Collision	Medium

### Chemistry

24	11th	A	Chemistry	Ionic equilibrium	pH	Easy
25	11th	A	Chemistry	Periodic classification	Metallic character	Easy
26	12th	A	Chemistry	Haloalkanes and Haloarenes	Chirality	Medium
27	11th	A	Chemistry	P block elements-I	Important compounds of Carbon	Medium
28	11th	A	Chemistry	s-block elements	Chemical properties	Easy
29	12th	A	Chemistry	Amines	Basic strength	Medium
30	11th	A	Chemistry	General Organic Chemistry	Isomerism	Easy
31	12th	A	Chemistry	P block elements-II	Properties of Ammonia	Medium
32	12th	A	Chemistry	Alcohol, phenols and ethers	Chemical properties	Medium
33	11th	A	Chemistry	Redox reactions	Titration	Easy
34	12th	A	Chemistry	Polymers	Uses of polymers	Easy
35	12th	A	Chemistry	Chemistry in everyday life	Preservatives	Easy
36	11th	A	Chemistry	Some Basic Concept od chemistry	Empirical formula	Easy
37	11th	A	Chemistry	Thermodynamics	Thermodynamic Processes	Easy
38	12th	A	Chemistry	Aldehyde, Ketone and Carboxylic acid	Chemical reactions	Medium
39	11th	A	Chemistry	Some Basic Concept od chemistry	Molarity	Medium
40	11th	A	Chemistry	s-block elements	Flame Test	Easy
41	12th	A	Chemistry	Coordination Compounds	Crystal Field Theory	Medium
42	11th	B	Chemistry	Atomic Orbital	Orbital Diagram	Easy
43	12th	B	Chemistry	Electrochemistry	Nernst equation	Medium
44	12th	B	Chemistry	Chemical Kinetics	First order reaction	Medium
45	11th	B	Chemistry	Thermodynamics	Thermochemistry	Medium

## Mathematics

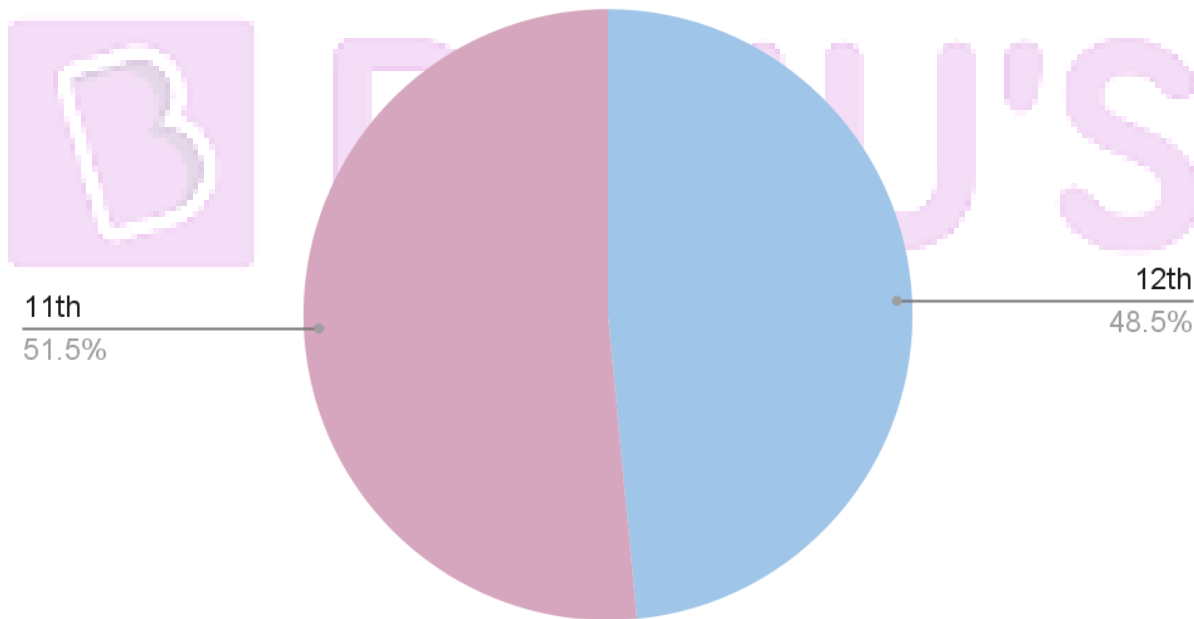
46	11th	A	Mathematics	Binomial Theorem	Sum of Bino. Coefficient	Easy
47	11th	A	Mathematics	Relation & Function	Functions	Easy
48	11th	A	Mathematics	Complex Number	Geometry of Complex Number	Easy
49	12th	A	Mathematics	Differential Equation	Linear D. E	Medium
50	11th	A	Mathematics	Mathematical Reasoning	Tautology	Easy
51	11th	A	Mathematics	Permutation & Combination	Principle of Counting	Easy
52	11th	A	Mathematics	Relation & Function	Range	Easy
53	12th	A	Mathematics	Matrices & Determinants	Symmetric and Skew Symmetric	Medium
54	12th	A	Mathematics	Continuity & Differentiability	Continuity at a Point	Medium
55	11th	A	Mathematics	Probability	Basic Probability	Easy
56	12th	A	Mathematics	Vector Algebra	Vector Triple Product	Medium
57	12th	A	Mathematics	Indefinite Integration	Partial fraction	Medium
58	12th	A	Mathematics	Matrices & Determinants	Matrices	Difficult
59	12th	A	Mathematics	Three Dimensional Geometry	Skew Lines	Medium
60	11th	A	Mathematics	Permutation & Combination	Combination	Medium
61	12th	A	Mathematics	Application of Derivative	Maxima & Minima	Medium
62	11th	B	Mathematics	Binomial Theorem	Remainder	Difficult
63	12th	B	Mathematics	Definite Integration	Property of D.I	Easy
64	11th	B	Mathematics	Straight Lines	Position of point w.r.t. Line	Difficult
65	11th	B	Mathematics	Sequence & Series	A.P & G.P	Medium
66	12th	B	Mathematics	Probability	Baye's Theorem	Medium

### Class Wise Distribution Level Analysis

As per our expert faculties the questions from **Class 12th syllabus and Class 11th syllabus** had an **approximately equal weightage**.. 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	10	40
Mathematics	11	44	10	40
<b>Grand Total</b>	<b>34</b>	<b>136</b>	<b>32</b>	<b>128</b>

### Class Wise Distribution Analysis

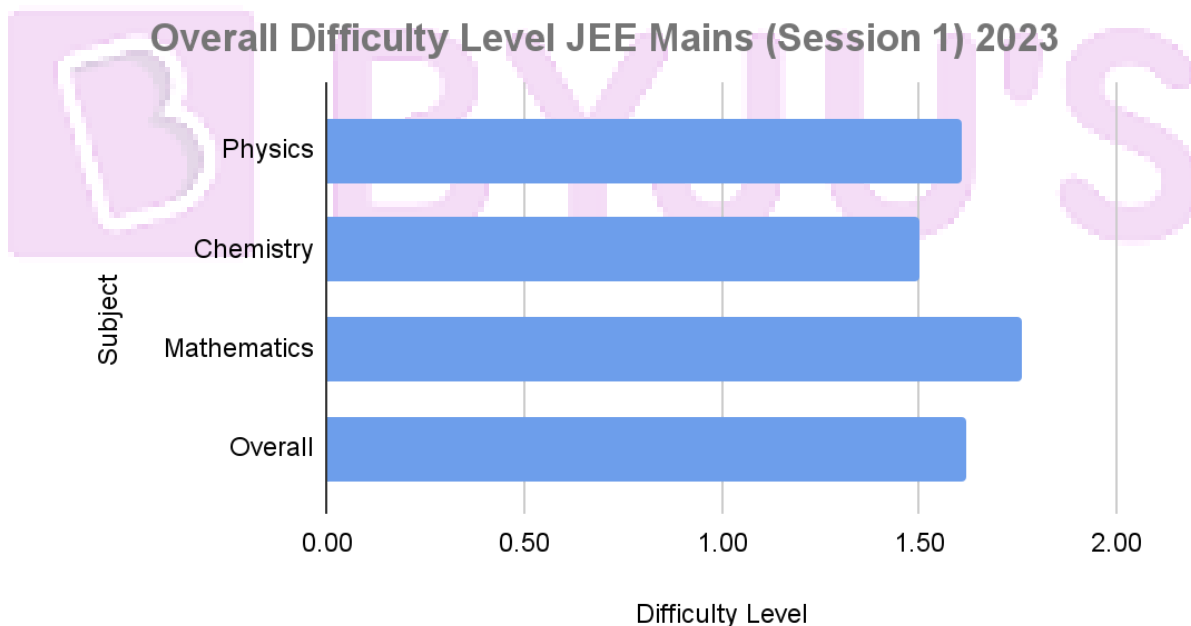


## Overall Difficulty Level Analysis

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	1.61
Chemistry	1.50
Mathematics	1.76
Overall	1.62



## Conclusion

The Overall Difficulty rating for **JEE Mains Session 1 (Shift 2) 2023** was **1.62** which was considered as moderately 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