

**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  $\leq 90$  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.

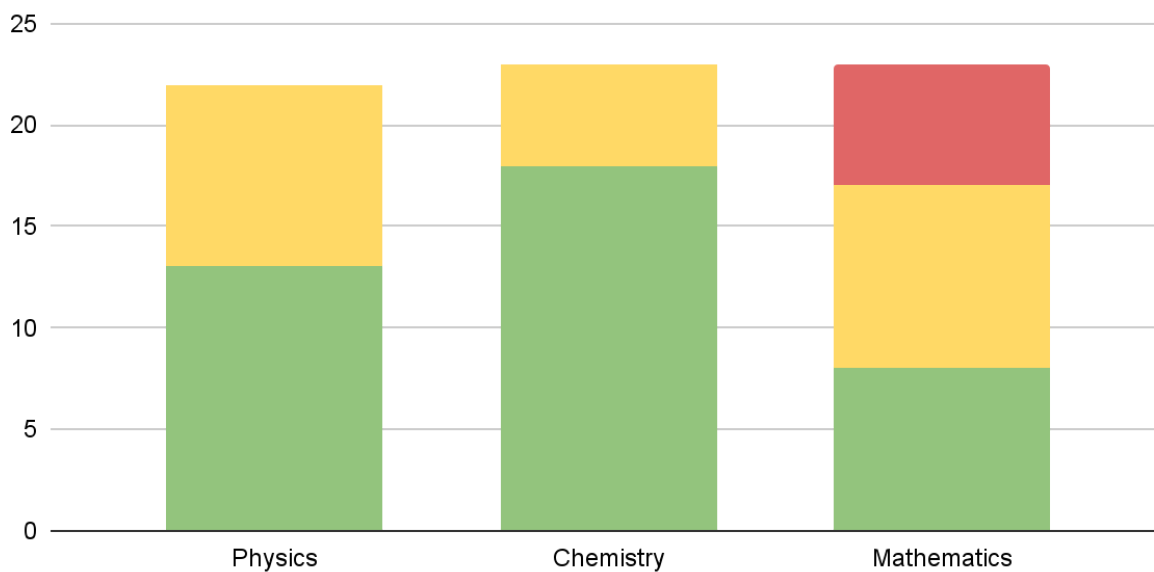
### Subject Wise Difficulty Level Analysis

Although it was a memory-based question analysis, our experts could figure out **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
<b>Grand Total</b>	<b>39</b>	<b>156</b>	<b>23</b>	<b>92</b>	<b>6</b>	<b>24</b>	<b>68</b>	<b>272</b>



■ Difficult ■ Medium ■ Easy



### 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

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

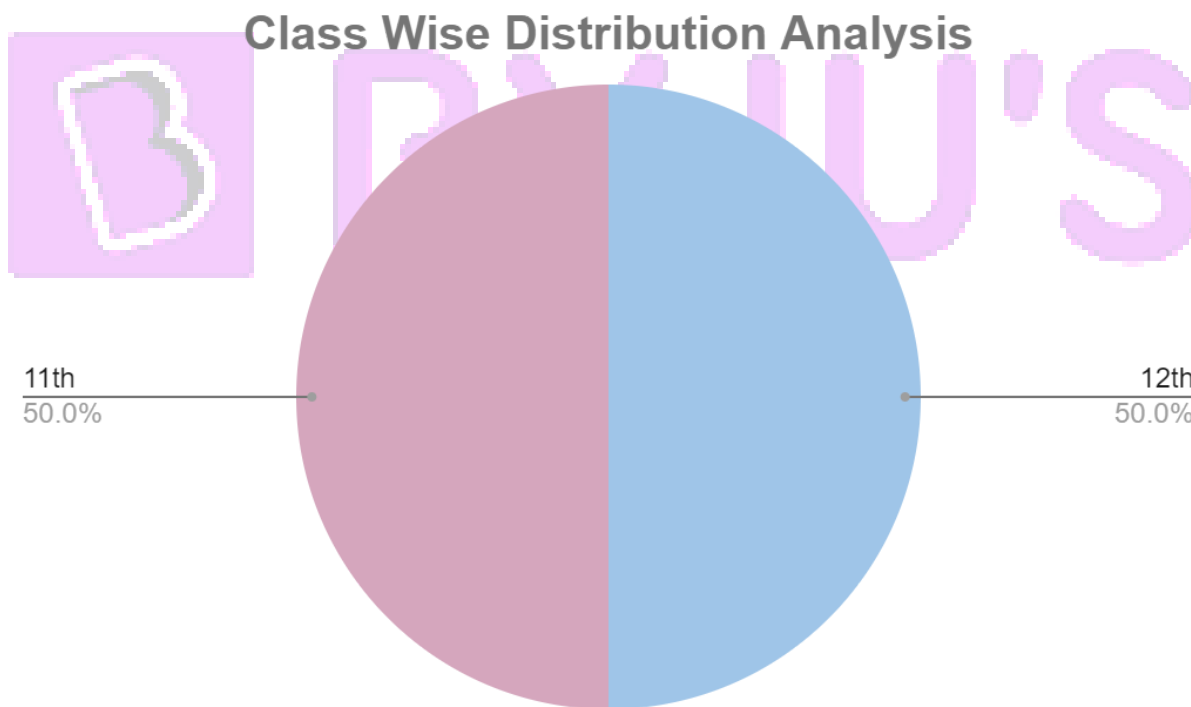
## Mathematics

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
<b>Grand Total</b>	<b>34</b>	<b>136</b>	<b>34</b>	<b>136</b>

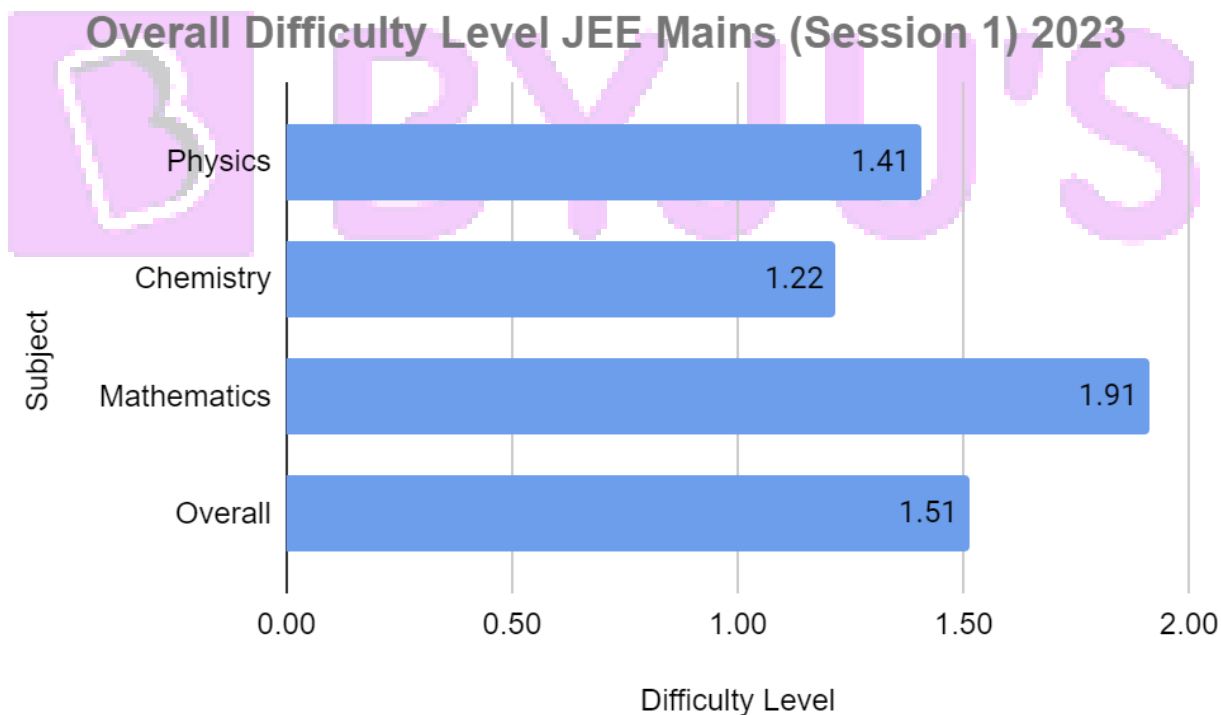


## Overall Difficulty Level Analysis

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
<b>Overall</b>	<b>1.51</b>



## 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.