A Detailed Analysis of JEE Main (Session 1) 2023
29th January, 2023 Shift 1 (9 AM - 12 Noon)
(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.

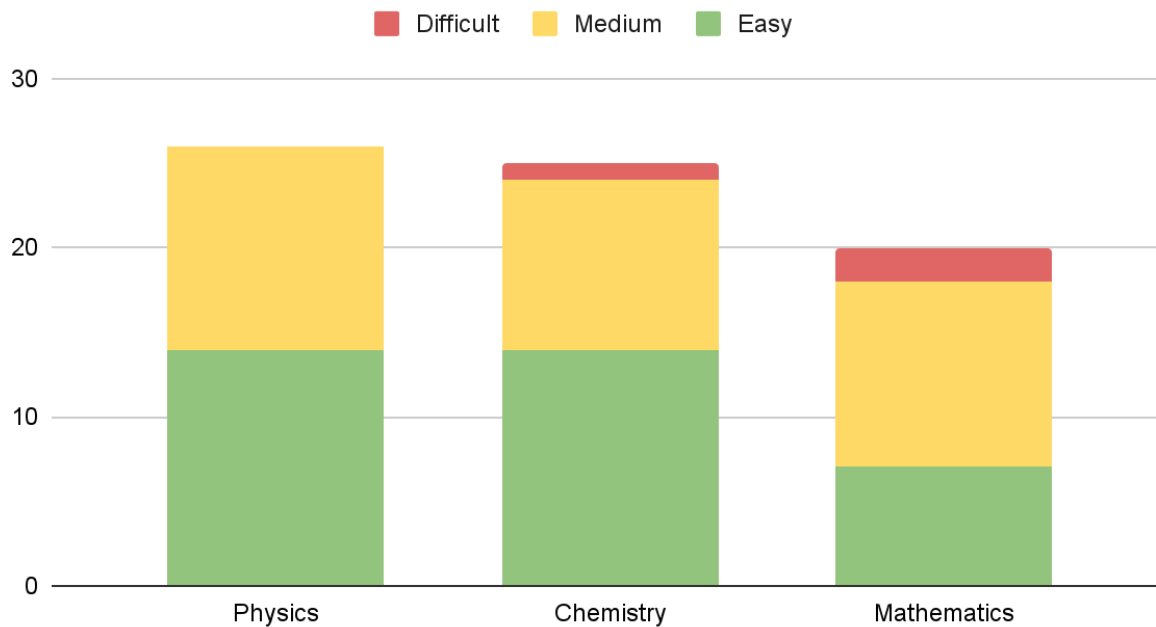### JEE Main Exam Pattern 2023: Paper 1 (B.E/B.Tech)

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 **71 questions out of 90 questions** i.e, **26** questions in Physics, **25** questions in Chemistry and **20** 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	12	48	0	0	26	104
Chemistry	14	56	10	40	1	4	25	100
Mathematics	7	28	11	44	2	8	20	80
Grand Total	**35**	**140**	**33**	**132**	**3**	**12**	**71**	**284**

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	Moving Charges & Magnetism	Application Of Biot Savart's Law	Medium
2	11th	A	Physics	Laws Of Motion	Friction on Inclined Plane	Easy
3	11th	A	Physics	Laws Of Motion	Dynamics Of Circular Motion	Medium
4	12th	A	Physics	Atoms	Hydrogen Spectrum	Medium
5	11th	A	Physics	Units & Measurements	Dimensional Analysis	Medium
6	12th	A	Physics	Electromagnetic Induction	Mutual Induction	Medium
7	11th	A	Physics	System Of Particles & Rotationaal Motion	Rolling Motion	Easy
8	12th	A	Physics	Current Electricity	Electrical Power	Easy
9	11th	A	Physics	System Of Particles & Rotationaal Motion	Conservation Of Angular Momentum	Medium
10	12th	A	Physics	Wave Optics	Young's Double Slit Experiment	Easy
11	12th	A	Physics	Electric Charges & Fields	Electric Field	Easy
12	12th	A	Physics	Atoms	Hydrogen Spectrum	Medium
13	11th	A	Physics	Mechanical Properties Of Fluids	Surface Tension	Easy
14	11th	A	Physics	Gravitation	Gravitational Force	Easy
15	11th	A	Physics	Mechanical Properties Of Fluids	Surface Tension	Medium
16	11th	A	Physics	Thermodynamics	Isochoric Process	Easy

17	12th	A	Physics	Nuclei	Half Life	Medium
18	12th	A	Physics	Electric Charges & Fields	Electric Flux & Gauss's Law	Easy
19	11th	A	Physics	Waves	Superposition Principle	Easy
20	12th	A	Physics	Moving Charges & Magnetism	Application Of Biot Savart's Law	Medium
21	11th	B	Physics	Laws Of Motion	Impulse Momentum Theorem	Medium
22	11th	B	Physics	Motion In A Plane	Projectile Motion	Easy
23	12th	B	Physics	Current Electricity	Meter Bridge	Easy
24	12th	B	Physics	Wave Optics	Law Of Malus	Easy
25	12th	B	Physics	Electromagnetic Induction	Faraday's Laws	Medium
26	12th	B	Physics	Nuclei	Nuclear Decay	Easy

Chemistry

27	12th	A	Chemistry	Aldehyde, Ketones and Carboxylic acid	Clemmension Reduction	Easy
28	12th	A	Chemistry	Alcohol, Phenol and ethers	Acidic and basic strength	Medium
29	12th	A	Chemistry	P-block elements -II	Halogens	Easy
30	11th	A	Chemistry	Environmental Chemistry	Photochemical smog	Easy
31	11th	A	Chemistry	Chemical Bonding	Molecular Orbital Theory	Easy
32	12th	A	Chemistry	Chemical Bonding	Molecular Orbital Theory	Easy
33	11th	A	Chemistry	S-block elements	Hydration enthalpy	Easy
34	11th	A	Chemistry	Chemical Bonding	Octet Theory	Easy
35	12th	A	Chemistry	Metallurgy	Mond Process	Easy
36	12th	A	Chemistry	Aldehyde, Ketones and Carboxylic acid	Cannizzaro reaction	Easy
37	12th	A	Chemistry	Alcohol, Phenol and ethers	Acidic and basic strength	Medium

				Aldehyde, Ketones and Carboxylic acid +Alcohol, Phenol and ethers		
38	12th	A	Chemistry	Aldehyde, Ketones and Carboxylic acid +Alcohol, Phenol and ethers	Name reaction	Easy
39	11th	A	Chemistry	Thermodynamics	First law of thermodynamics	Easy
40	12th	A	Chemistry	Metallurgy	Ores and minerals	Easy
41	12th	A	Chemistry	Biomolecules	Peptides	Difficult
42	12th	A	Chemistry	Coordination compounds	Isomerism	Easy
43	11th	A	Chemistry	Some basic concept of Organic Chemistry	Qualitative analysis	Medium
44	11th	A	Chemistry	Haloalkanes and haloarenes	Physical properties of Haloalkanes and Haloarenes	Easy
45	12th	B	Chemistry	Coordination compounds	Metal carbonyls	Medium
46	11th	B	Chemistry	Ionic Equilibrium	Relationship between Gibbs energy and equilibrium constant	Medium
47	12th	B	Chemistry	Chemical Kinetics	first-order- Half life	Medium
48	12th	B	Chemistry	Chemical Kinetics	Nuclear chemistry	Medium
49	11th	B	Chemistry	Atomic Structure	Line spectra	Medium
50	12th	B	Chemistry	d and f block elements	Reduction potential	Medium
51	11th	B	Chemistry	Ionic Equilibrium	Ostwald dilution law	Medium

Mathematics

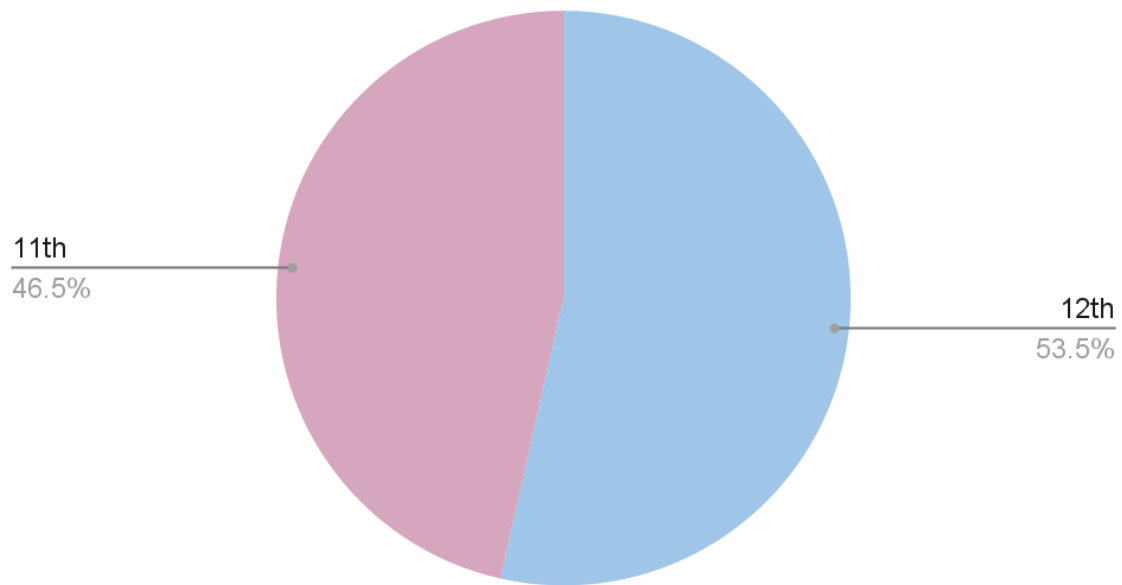| 52	12th	A	Mathematics	Relations and Functions	One -one functions	Medium
53	11th	A	Mathematics	Complex numbers	Algebra of complex numbers	Easy
54	12th	A	Mathematics	Differential equations	Variable seperable Differential equation	Easy
55	12th	A	Mathematics	Matrices and Determinants	Matrix Equation	Medium
56	12th	A	Mathematics	Application of Integral	Area between curves	Medium
57	12th	A	Mathematics	Relations and Functions	Domain	Easy
58	12th	A	Mathematics	Definite Integrals	Properties of definite Integrals	Medium

59	11th	A	Mathematics	Permutation and combinations	Dearrangement	Medium
60	11th	A	Mathematics	Probability	Classical Probability	Easy
61	11th	A	Mathematics	Limits	Trigonometric limits	Difficult
62	11th	A	Mathematics	Straight Line	Reflection	Medium
63	11th	A	Mathematics	Straight Line	Area of triangle	Medium
64	11th	A	Mathematics	Mathematical reasoning	Conditional statement	Easy
65	12th	A	Mathematics	Application of Integral	Area between curves	Difficult
66	12th	B	Mathematics	Continuity and Differentiability	Functional eaqution	Medium
67	11th	B	Mathematics	Sequence and series	Geometric progression	Easy
68	11th	B	Mathematics	Sequence and series	Vn method	Medium
69	11th	B	Mathematics	Permutation and combinations	Rank	Medium
70	11th	B	Mathematics	Binomial Theorem	Properties of binomial coefficients	Medium
71	12th	B	Mathematics	Vectors	Co-planarity	Easy

Class Wise Distribution Level Analysis

As per our expert faculties the questions from **Class 12th syllabus dominated Class 11th syllabus**. Below is the Class wise question distribution table -

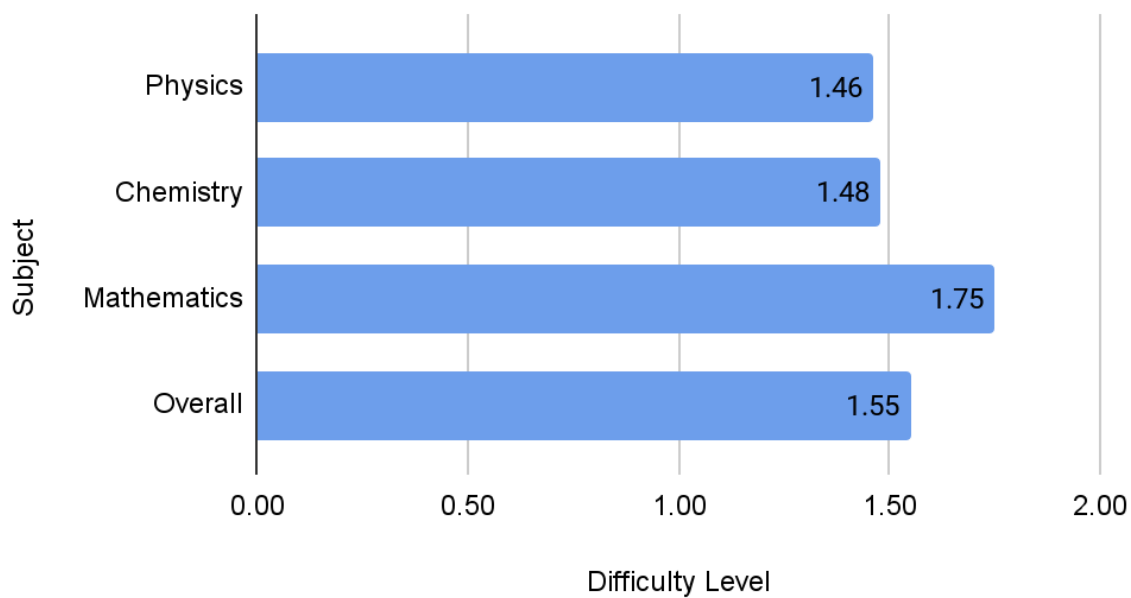|	11th		12th	
Subject	**No. of Questions**	**Total Marks**	**No. of Questions**	**Total Marks**
Physics	12	48	14	56
Chemistry	10	40	15	60
Mathematics	11	44	9	36
Grand Total	**33**	**132**	**38**	**152**

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	1.46
Chemistry	1.48
Mathematics	1.75
Overall	1.55

Overall Difficulty Level JEE Mains (Session 1) 2023

Subject	Difficulty Level
Physics	1.46
Chemistry	1.48
Mathematics	1.75
Overall	1.55

Difficulty Level

<u>Conclusion</u>

The Overall Difficulty rating for **29th January JEE Mains Session 1 (Shift 1) 2023** was **1.55** 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 > Chemistry > Physics.