

A Detailed Analysis of JEE Main Session 2 Paper (B.E./B.Tech) 2023

6th April 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

The JEE Main 2023 (B.E./B.Tech) exam is being conducted entirely in computer-based mode by the National Testing Agency (NTA). JEE Main Exam 2023 (B.E./B.Tech.) will be held on 6th, 8th, 10th, 11th, and 12th April, 2023. The paper will be conducted in two shifts, i.e. **first shift from 9:00 am to 12:00 pm & second shift from 3:00 pm to 6:00 pm.**

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

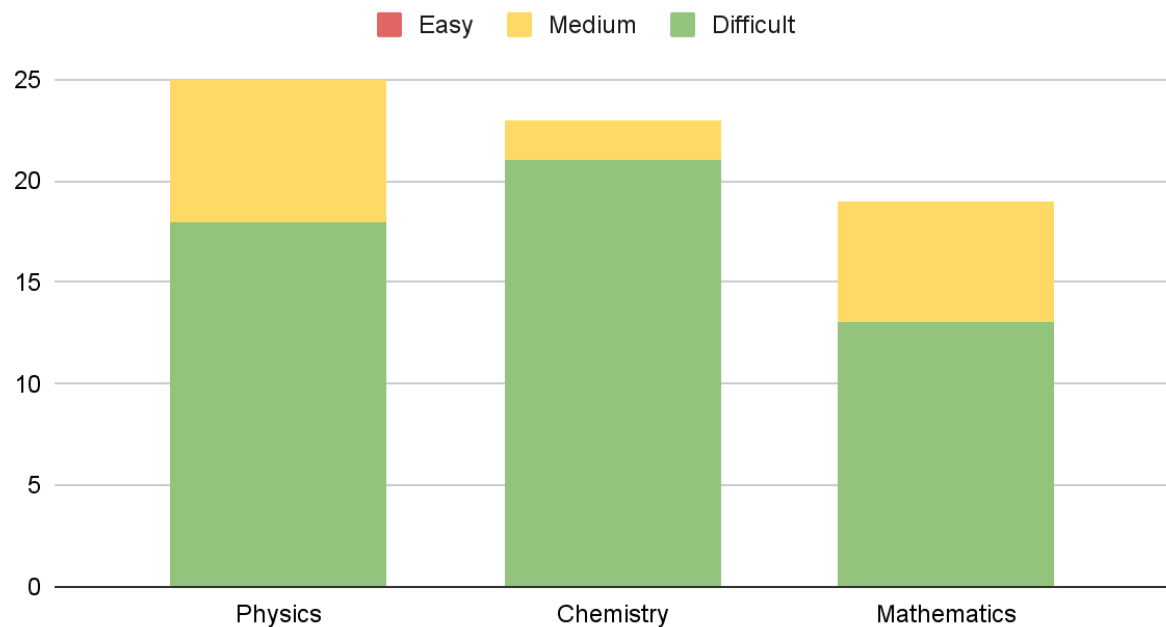
Particulars	Details
Exam Mode	Computer-based examination
Test Duration	Three hours
No. of Subjects	(i)Physics (ii)Chemistry (iii)Mathematics
Type of questions	MCQs: 4 options with only 1 correct option Numerical Value Questions: Questions whose answers are to be filled in as a numerical value
JEE Mains Total No. of questions Total: 75 Questions (25 questions in each subject)	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.
JEE Mains Total Marks	300 Marks
JEE Main Marking Scheme	MCQ's: Four marks will be awarded for each correct answer and there will be a negative marking of one mark for each wrong answer. Questions with numerical value answers: Four marks will be awarded for each correct answer and there will be a negative marking of one 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** i.e., **25** questions in Physics, **23** questions in Chemistry and **19** questions 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	18	72	7	28	0	0	25	100
Chemistry	21	84	2	8	0	0	23	92
Mathematics	13	52	6	24	0	0	19	76
Grand Total	52	208	15	60	0	0	67	268

Subject Wise Difficulty Level Analysis



Question Wise Distribution Analysis

Following is the question distribution table as per Class,Chapter, Topic & Difficulty -

Physics

Date & Shift	Question No	Class	Section	Subject	Chapter Name	Topic Name	Difficulty Level
6th April/ Shift 1	1	12th	A	Physics	Dual Nature Of Matter & Radiations	De Broglie Hypothesis	Easy
6th April/ Shift 1	2	12th	A	Physics	Communication System	Range Of Transmission	Easy
6th April/ Shift 1	3	12th	A	Physics	Electrostatic Potential & Capacitance	Potential Due to shell	Easy
6th April/ Shift 1	4	11th	A	Physics	Newton's Laws Of Motion	Spring Forces	Easy
6th April/ Shift 1	5	11th	A	Physics	Oscillations	Toime Period OF SHM	Medium
6th April/ Shift 1	6	12th	A	Physics	Moving Charges & Magnetism	Applications Of Biot Savart's Law	Easy
6th April/ Shift 1	7	11th	A	Physics	Mechanical Properties Of Fluids	Stoke's Law	Easy
6th April/ Shift 1	8	11th	A	Physics	Gravitation	Escape Speed	Easy
6th April/ Shift 1	9	11th	A	Physics	Thermodynamics	First Law Of thermodynamics	Easy
6th April/ Shift 1	10	11th	B	Physics	Motion In A Straight Line	Average & Instantaneous Speed	Easy

6th April/ Shift 1	11	11th	A	Physics	Motion In A Plane	Projectile Motion	Easy
6th April/ Shift 1	12	12th	A	Physics	Electrostatic Potential & Capacitance	Grouping Of Capacitors	Medium
6th April/ Shift 1	13	12th	A	Physics	Moving Charges & Magnetism	Applications Of Ampere's Circuital Law	Easy
6th April/ Shift 1	14	12th	A	Physics	Solids & Semiconductor Devices	Logic Gate	Easy
6th April/ Shift 1	15	12th	A	Physics	Atoms	Bohr's Theory	Easy
6th April/ Shift 1	16	12th	A	Physics	Atoms	Hydrogen Spectrum	Medium
6th April/ Shift 1	17	11th	A	Physics	Oscillations	Time Period Of Simple Pendulum	Easy
6th April/ Shift 1	18	12th	A	Physics	Electromagnetic Waves	Properties Of Electromagnetic Waves	Easy
6th April/ Shift 1	19	11th	A	Physics	Mechanical Properties Of Solids	Young's Modulus	Easy
6th April/ Shift 1	20	12th	A	Physics	Ray Optics & Optical Instruments	Refraction Of Light	Easy
6th April/ Shift 1	21	11th	B	Physics	Work Energy & Power	Work Energy Theorem	Medium
6th April/ Shift 1	22	11th	B	Physics	Waves	Beats	Medium
6th April/ Shift 1	23	12th	B	Physics	Current Electricity	Resistance of Conductor	Medium

6th April/ Shift 1	24	11th	B	Physics	Oscillations	Time Period Of SHM	Easy
6th April/ Shift 1	25	11th	B	Physics	System Of Particles & Rotational Motion	Moment Of Inertia	Medium

Chemistry

6th April/ Shift 1	31	12th	A	Chemistry	Polymers	Polymers	Easy
6th April/ Shift 1	32	11th	A	Chemistry	Biomolecules	Vitamins	Easy
6th April/ Shift 1	33	12th	A	Chemistry	Chemical Bonding	VSEPR Theory	Easy
6th April/ Shift 1	34	12th	A	Chemistry	Amines	Hoffmann Bromamide Degradation	Medium
6th April/ Shift 1	35	12th	A	Chemistry	P block -II	Group 15 - Oxides of Nitrogen	Easy
6th April/ Shift 1	36	12th	A	Chemistry	Haloalkane and Haloarenes	Finklestein reaction	Easy
6th April/ Shift 1	37	11th	A	Chemistry	Coordination compounds	Crystal Field Theory	Easy
6th April/ Shift 1	38	11th	A	Chemistry	Equilibrium	Solubility product	Easy
6th April/ Shift 1	39	12th	A	Chemistry	S block elements	Important compounds of s block elements	Easy
6th April/ Shift 1	40	12th	A	Chemistry	Biomolecules	Enzymes	Easy

6th April/ Shift 1	41	12th	A	Chemistry	Amines	Hinsberg Test	Easy
6th April/ Shift 1	42	11th	A	Chemistry	Amines	Miscellaneous	Medium
6th April/ Shift 1	43	11th	A	Chemistry	Some Basic concept of organic chemistry	Qualitative analysis	Easy
6th April/ Shift 1	44	11th	A	Chemistry	Periodic classification	Electronegativity	Easy
6th April/ Shift 1	45	12th	A	Chemistry	Environmental chemistry	Photochemical smog	Easy
6th April/ Shift 1	46	11th	A	Chemistry	Solid state	Stoichiometric defects	Easy
6th April/ Shift 1	47	11th	A	Chemistry	S block elements	Reduction potential	Easy
6th April/ Shift 1	48	12th	A	Chemistry	Atomic structure	Line spectra	Easy
6th April/ Shift 1	49	12th	A	Chemistry	d & f block elements	f block elements	Easy
6th April/ Shift 1	50	11th	A	Chemistry	Redox reactions	Oxidation state	Easy
6th April/ Shift 1	51	12th	B	Chemistry	Atomic structure	Bohr Model of Hydroge atom	Easy
6th April/ Shift 1	52	11th	B	Chemistry	Solutions	Colligative properties	Easy
6th April/ Shift 1	53	11th	A	Chemistry	Thermodynamics	Gibbs's Energy	Easy

Mathematics

6th April/ Shift 1	61	11th	A	Mathematics	Permutations and combinations	Distribution of Alike Objects	Easy
6th April/ Shift 1	62	11th	A	Mathematics	Binomial Theorem	General Terms in binomial theorem	Easy
6th April/ Shift 1	63	11th	A	Mathematics	Sequence and Series	Method of differences	Easy
6th April/ Shift 1	64	11th	A	Mathematics	Statistics	Variance	Easy
6th April/ Shift 1	65	12th	A	Mathematics	3D Geometry	Image of a point with respect to a plane	Easy
6th April/ Shift 1	66	12th	A	Mathematics	Integration	Functional equation	Medium
6th April/ Shift 1	67	11th	A	Mathematics	Quadratic equation	Modules	Easy
6th April/ Shift 1	68	11th	A	Mathematics	Mathematical Reasoning	Conditional statement	Easy
6th April/ Shift 1	69	12th	A	Mathematics	Vector Algebra	products	Easy
6th April/ Shift 1	70	12th	A	Mathematics	Indefinite Integrals	By parts	Medium
6th April/ Shift 1	71	11th	A	Mathematics	Height and Distance	Introduction	Easy
6th April/ Shift 1	72	12th	A	Mathematics	Method of Differentiation	Logarithmic differentiation	Medium

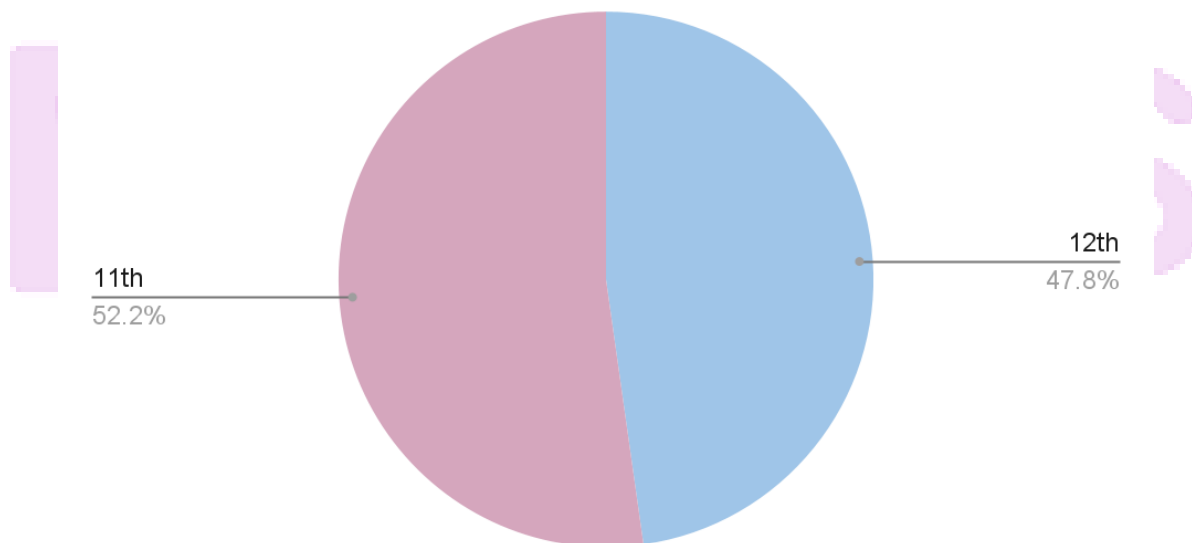
6th April/ Shift 1	73	11th	A	Mathematics	Permutations and combinations	Pernutattion under restriction	Easy
6th April/ Shift 1	74	12th	A	Mathematics	3D Geometry	Skew lines	Medium
6th April/ Shift 1	75	11th	B	Mathematics	Sequence & Series	Some Special Sequences	Easy
6th April/ Shift 1	76	12th	B	Mathematics	Matrices	Multiplication of two matrices	Medium
6th April/ Shift 1	77	11th	B	Mathematics	Binomial Theorem	General Terms	Easy
6th April/ Shift 1	78	11th	B	Mathematics	Binomial Theorem	Binomial Coefficient	Easy
6th April/ Shift 1	79	12th	B	Mathematics	COntinuity and differentiability	Differentiability	Medium

Class Wise Distribution Level Analysis

As per our expert faculties the questions from **Class 11th syllabus dominated Class 12th syllabus**. 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	11	44	12	48
Mathematics	11	44	8	32
Grand Total	35	140	32	128

Class Wise Distribution Analysis



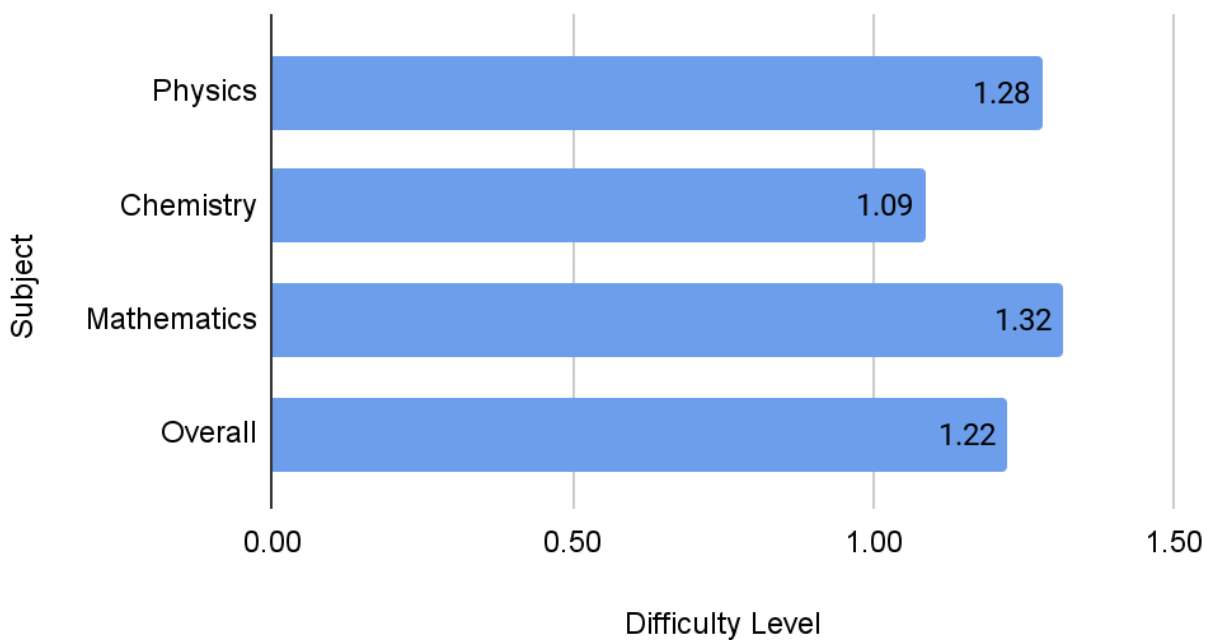
Overall Difficulty Level Analysis

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

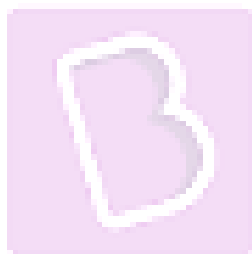
Subject	Difficulty Level
Physics	1.28
Chemistry	1.09
Mathematics	1.32
Overall	1.22

Overall Difficulty Level JEE Mains (Session 1) 2023



Conclusion

The overall difficulty rating for **JEE Mains Session 2 (6th April/Shift 1) 2023** was **1.22** which was considered moderately difficult. Overall mathematics was the most difficult subject to attempt. The order of difficulty in different subjects, as assessed by our experts is Mathematics>Physics>Chemistry.



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