

## In-Depth Analysis - JEE Mains B.Tech June 25, Shift 1 (9:00 a.m to 12:00 p.m) (Memory-Based)

**Disclaimer:** Students had to answer only 75 Questions (300 marks) in the exam, But the Analysis below pertains to all the 90 Questions (360 marks)

JEE Mains B.Tech was held in online mode. It had 3 subjects which were divided into 6 sections which were Physics (Section - A & B), Chemistry (Section - A & B) and Mathematics (Section - A & B).

The 6 sections in this examination were divided in the following manner -

Subject	Section	No. of questions asked	No. of questions to be attempted	Total Marks
Physics (MCQ)	A (1)	20	20	80
Physics (Single Answer Type Questions)	B (2)	10	5	40
Chemistry (MCQ)	A (3)	20	20	80
Chemistry (Single Answer Type Questions)	B (4)	10	5	40
Mathematics (MCQ)	A (5)	20	20	80
Mathematics (Single Answer Type Questions)	B (6)	10	5	40
<b>Total</b>	<b>6</b>	<b>90</b>	<b>75</b>	<b>360</b>

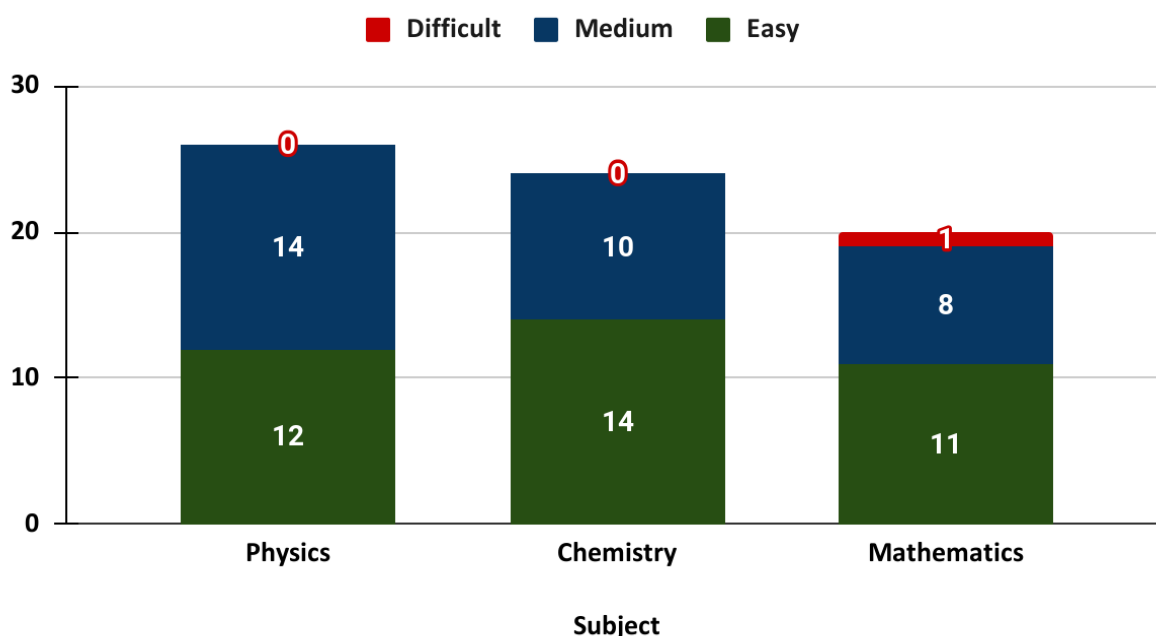
- Section A (1), A (3) & A (5) was MCQ (Multiple Choice Questions), each question had 4 marks, students will be awarded 4 marks for the correct answer and -1 mark will be awarded for the incorrect answer.
- Section B (2), B (4) & B (6) was a single answer type questions, each question had 4 marks students will be awarded 4 marks for the correct answer and 0 marks will be awarded for the incorrect answer.

## Subject Wise Analysis

Although it is the analysis of memory-based questions, our experts figured out 70 questions out of 90 questions i.e, **26** questions in Physics, **24** 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	12	48	14	56	0	0	26	104
Chemistry	14	56	10	40	0	0	24	96
Mathematics	11	44	8	32	1	4	20	80
Grand Total	37	148	32	128	1	4	70	280

## Subject Wise Difficulty Level



- Most of the Physics questions from Physics were either easy or of moderate difficulty.
- Most of the questions from Chemistry were either easy or of moderate difficulty.
- Most of the questions from Mathematics were easy to moderate & few were a bit difficult.

## Physics (Section 1 & 2)

Physics was harder than Chemistry & Maths. Physics had 12 easy questions and 14 medium type questions. Following is the question distribution table as per Class, Chapter, Topic & Difficulty -

Class	Question No	Chapter Name	Topic Name	Difficulty Level
12th	1	Current Electricity	Combination of Resistors – Series and Parallel	Easy
12th	2	Electric Charges and Fields	Gauss's Law	Easy
11th	3	Motion In A Plane	Addition of Vectors	Medium
12th	4	Atoms	Bohr's Atomic Model	Medium
12th	5	Electrostatic Potential and Capacitance	Grouping of Capacitors	Easy
11th	6	Laws of Motion	Friction	Easy
11th	7	Gravitation	Acceleration Due To Gravity Upon The Earth's Surface	Medium
11th	8	Work, Energy and Power	Work Done By Some Common Forces	Medium
11th	9	Kinetic Theory	Kinetic Theory of An Ideal Gas	Easy
12th	10	Communication Systems	Signals	Easy
12th	11	Semiconductor Electronics : Materials, Devices and Simple Circuits	Special Purpose P-N Junction Diodes	Medium
11th	12	Units and Measurements	Accuracy, Precision of Instruments and Errors In Measurement	Easy
12th	13	Alternating Current	Alternating Current and EMF	Easy
11th	14	Mechanical Properties of Fluids	Viscosity	Easy
12th	15	Wave Optics	Superposition of The Waves	Medium
12th	16	Electromagnetic Waves	Important Characteristics and Nature of Electromagnetic Waves	Easy
11th	17	Moving Charges and Magnetism	Ampere's Circuital Law	Medium
11th	18	Moving Charges and Magnetism	The Moving Coil Galvanometer	Medium
12th	19	Ray Optics and Optical Instruments	Reflection of Light	Medium
11th	20	Work, Energy and Power	The Work-Energy Theorem For A Variable Force	Medium
12th	21	Current Electricity	Electrical Energy, Power	Easy
11th	22	Mechanical Properties of Fluids	Surface Tension	Medium
11th	23	Motion In A Straight Line	Kinematic Equations For Uniformly Accelerated Motion	Easy
12th	24	Current Electricity	Equivalent Resistance of Complex Networks	Medium
12th	25	Dual Nature of Radiation and Matter	Davisson and Germer Experiment For Wave Nature of Electron	Medium

12th	26	Alternating Current	Power In Ac Circuits : The Power Factor	Medium
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## Chemistry (Section 3 & 4)

Chemistry had easy to moderate level of questions. Chemistry had 14 medium and 10 easy questions. Following is the question distribution table as per Class, Chapter, Topic and Difficulty -

Class	Question No	Chapter Name	Topic Name	Difficulty Level
12th	31	The D and F-Block Elements	General Properties of The Transition Elements (D-Block)	Easy
12th	32	The P-Block Elements	Ammonia	Easy
12th	33	Amines	Preparation of Amines	Easy
11th	34	Chemical Bonding and Molecular Structure		Medium
11th	35	Chemical Bonding and Molecular Structure	Molecular Orbital Theory (Mot)	Easy
12th	36	Alcohols, Phenols and Ethers	Reaction of Phenols	Medium
12th	37	Alcohols, Phenols and Ethers	Preparation of Phenols	Easy
12th	38	Alcohols, Phenols and Ethers	Reaction of Phenols	Medium
12th	39	Chemistry In Everyday Life	Chemical Food	Medium
11th	40	Surface Chemistry	Colloids	Easy
11th	41	The P-Block Elements	Boron Family	Easy
12th	42	Environmental Chemistry	Water Pollution	Easy
12th	43	Electrochemistry	Conductance Measurement	Medium
12th	44	General Principles and Processes of Isolation of Elements	Important Ores and Minerals	Medium
12th	45	Alcohols, Phenols and Ethers	Preparation of Phenols	Easy
12th	46	Surface Chemistry	Colloids	Easy
11th	47	Structure of Atom	Developments Leading To The Bohr's Model of Atom	Medium
12th	48	The Solid State	Close Packed Structures	Medium
12th	49	Polymers		Easy
11th	50	Mole Concept	Calculation of moles	Easy
11th	51	Some Basic Concept of Organic Chemistry	IUPAC nomenclature	Easy
12th	52	Alcohols, Phenols and Ethers	Nitration of Phenol	Easy
11th	53	Atomic Structure	Bohr's Model	Medium
11th	54	Mole Concept	Concentration Terms	Medium

## Mathematics (Section 5 & 6)

Mathematics was of easy to moderate difficulty. Mathematics had 11 easy questions, 8 medium questions and 1 was difficult. Following is the question distribution as per Class, Chapter, Topic & Difficulty -

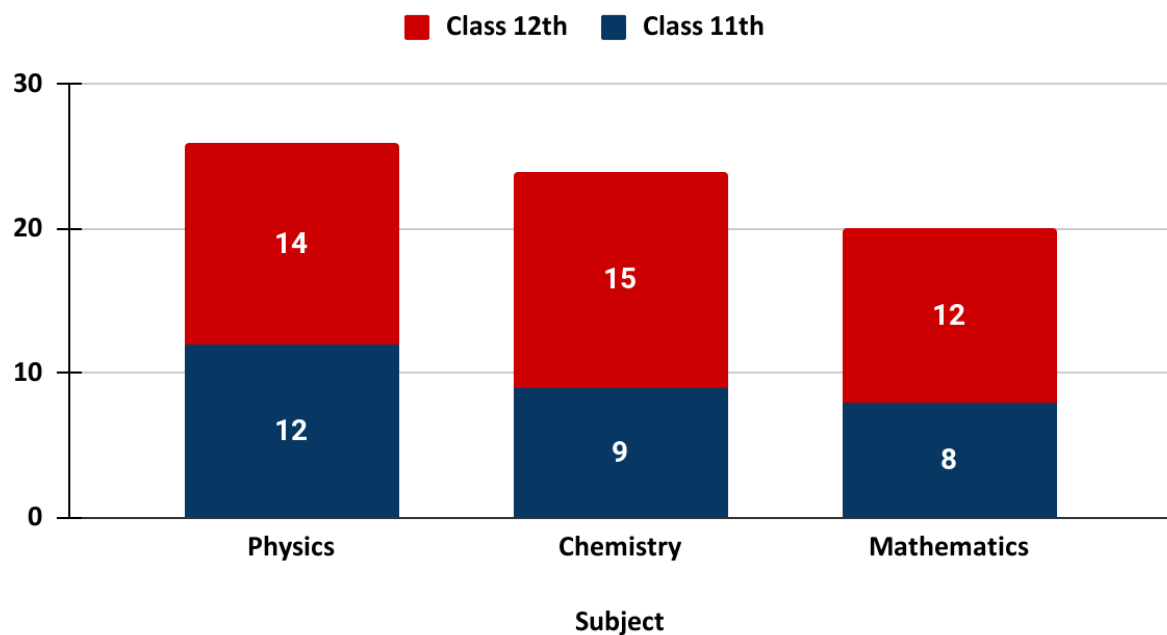
Class	Question No	Chapter Name	Topic Name	Difficulty Level
11th	61	Trigonometric Functions	Properties of Triangles	Medium
11th	62	Conic Sections	Circle	Medium
12th	63	Application of Derivatives	Increasing and Decreasing Functions	Difficult
11th	64	Limits and Derivatives	Limit	Medium
12th	65	Differential Equations	Homogeneous Equation	Medium
12th	66	Application of Derivatives	Increasing and Decreasing Functions	Medium
12th	67	Probability	Conditional Probability	Medium
12th	68	Integrals	Definite Integral	Easy
12th	69	Relations and Functions	Functions	Easy
12th	70	Differential Equations	Linear Differential Equation	Easy
12th	71	Vector Algebra	Angle between two vector	Easy
11th	72	Mathematical Reasoning	Mathematical Reasoning	Easy
11th	73	Sequences and Series	Telescopic Sums and Products	Medium
11th	74	Quadratic Equations		Easy
12th	75	Matrices	Matrix	Easy
12th	76	Vector Algebra	Dot Product	Easy
11th	77	Conic Sections	Parabola	Medium
12th	78	Application of Derivatives	Point of Inflection	Easy
12th	79	Vector Algebra	Cross Product	Easy
11th	80	Relations and Functions	Functional equation	Easy

## Class Wise Question Distribution

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

Subject	11th		12th		Total Percentage	
	No. of Questions	Total Marks	No of Questions	Total Marks	Class 11	Class 12
Physics	12	48	14	56	40%	47%
Chemistry	9	36	15	60	30%	50%
Mathematics	8	32	12	48	27%	40%
Grand Total	29	116	41	164	32%	46%

## Class Wise Question Distribution



## 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.

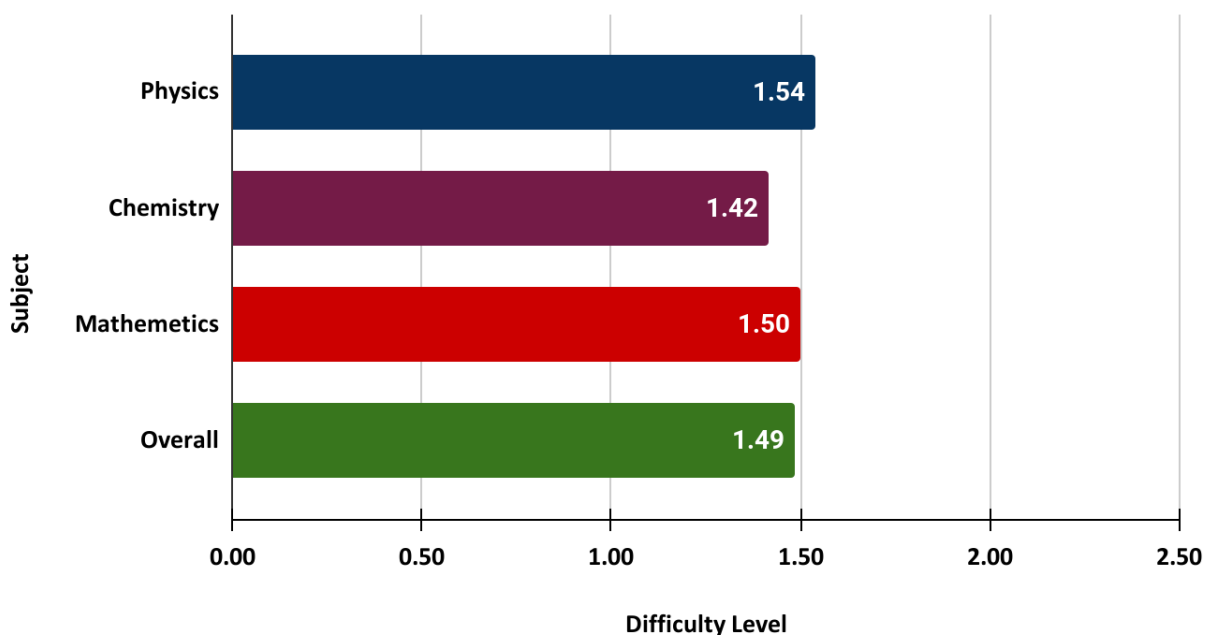
Easy - 1

Medium - 2

Difficult - 3

Subject	Difficulty Level
Physics	1.54
Chemistry	1.42
Mathematics	1.50
Overall	1.49

### Overall Difficulty Level - 2022 B.Tech JEE Mains



As per our expert faculties, this year JEE Main (B.Tech) Shift 1 is easier than that of the previous year. The Overall Difficulty rating for 2021 was 1.77 (moderately difficult)