

In-Depth Analysis - JEE Mains S2 B.E/B.Tech 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	20	20	80
Physics (Single Answer Type Questions)	B	10	5	20
Chemistry (MCQ)	A	20	20	80
Chemistry (Single Answer Type Questions)	B	10	5	20
Mathematics (MCQ)	A	20	20	80
Mathematics (Single Answer Type Questions)	B	10	5	20
Total	6	90	75	300

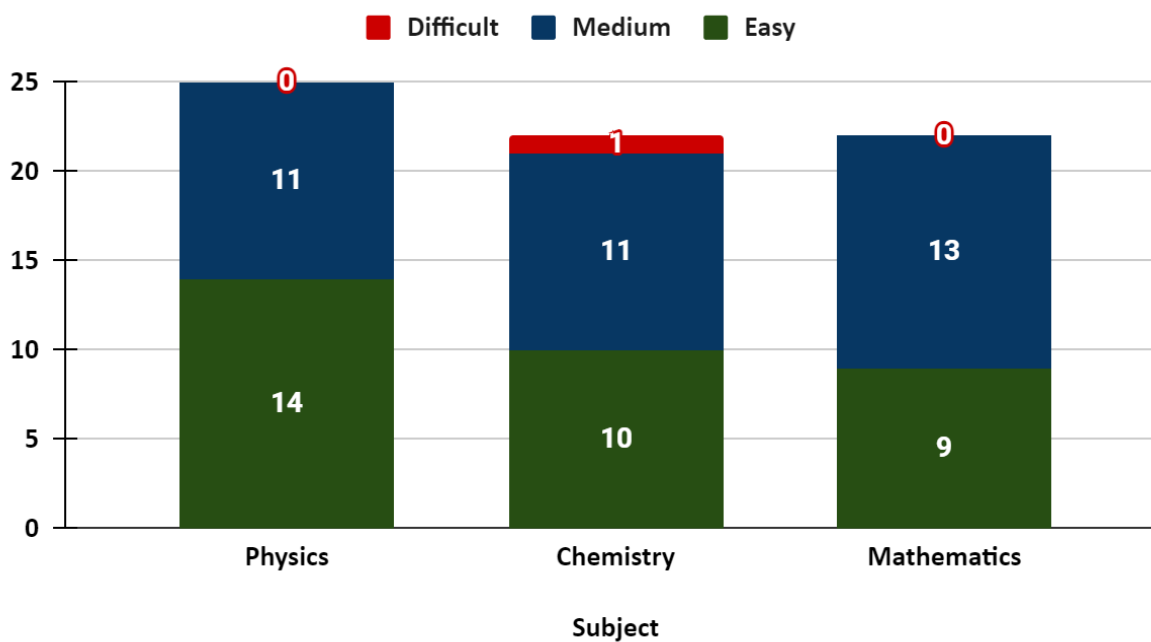
- Section A consists of 20 questions in each subject (Question Numbers – 01 to 20, 31 to 50 and 61 to 80). All questions are compulsory.
- Section B consisted of 10 questions in each subject (Question Nos – 21 to 30, 51 to 60 and 81 to 90). In Section B, a candidate needs to attempt any 5 questions out of 10 in each subject.

Subject Wise Analysis

Although it is the analysis of memory-based questions, our experts figured out 71 questions out of 90 questions i.e, **25** questions in Physics, **24** questions in Chemistry and **22** 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	11	44	0	0	25	100
Chemistry	11	44	12	48	1	4	24	96
Mathematics	9	36	13	52	0	0	22	88
Grand Total	34	136	36	144	1	4	71	284

Subject Wise Difficulty Level



- Most of the questions from the Physics were either easy or of moderate difficulty.
- Most of the questions from Chemistry were easy to moderate & one was difficult.
- Most of the questions from Mathematics were moderate but lengthy.

Physics (Section 1 & 2)

Physics was easy compared to Chemistry & Maths. Physics had 14 easy questions and 11 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	Wheatstone Bridge	Easy
11th	2	Laws of Motion	Pseudo-Force	Medium
12th	3	Moving Charges and Magnetism	Motion of A Charged Particle In A Magnetic Field	Easy
11th	4	Oscillations	Simple Harmonic Motion	Easy
12th	5	Alternating Current	Power In Ac Circuits	Medium
12th	6	Moving Charges and Magnetism	Magnetic Field Due To A Circular Coil	Medium
11th	8	Laws of Motion	Newtons Second Law of Motion	Medium
11th	8	Oscillations	Simple Harmonic Motion	Easy
12th	9	Wave Optics	Youngs Double Slit Experiment (Alternate Method)	Easy
11th	10	Work, Energy and Power	The Conservation of Mechanical Energy	Easy
11th	12	Motion In A Plane	Projectile Motion	Easy
11th	13	Gravitation	Acceleration Due To Gravity Upon The Earths Surface	Easy
12th	14	Dual Nature of Radiation and Matter	Wave Nature of Matter	Medium
12th	19	Electrostatic Potential and Capacitance	Grouping of Capacitors	Easy
12th	20	Communication Systems	Band Width of Signals	Easy
12th	21	Semiconductor Electronics : Materials, Devices and Simple Circuits	Special Purpose P-N Junction Diodes	Medium
11th	22	Mechanical Properties of Fluids	Surface Energy	Medium
12th	23	Electromagnetic Waves	Relation Between Electric Field, Magnetic Field and Speed of Light	Medium
12th	24	Current Electricity	Meter Bridge	Easy
11th	25	Kinetic Theory	Law of Equipartition of Energy	Easy
12th	26	Dual Nature of Radiation and Matter	Intensity of radiation	Medium
11th	27	Motion In A Plane	Projectile Motion	Medium
12th	28	Ray Optics and Optical Instruments	Lens Formula (Graphical analysis)	Easy

11th	29	Motion In A Straight Line	Kinematic Equations For Uniformly Accelerated Motion	Easy
11th	30	System of Particles and Rotational Motion	Dynamics of Rotational Motion About A Fixed Axis	Medium

Note - As this being a memory-based analysis our experts could figure out 25 out of 30 questions from Section - A (15 questions) and Section - B (10 questions)

Chemistry (Section 3 & 4)

Chemistry had easy to moderate level questions. Chemistry had 1 difficult question, 12 medium & 11 easy questions. Following is the question distribution table as per Class, Chapter, Topic,& Difficulty -

Class	Question No	Chapter Name	Topic Name	Difficulty Level
11th	31	Organic Chemistry Some Basic Principles and Techniques	Aromaticity	Medium
11th	32	Hydrogen	Hydrogen Peroxide (H ₂ O ₂)	Easy
11th	33	The S-Block Elements	General Characteristics of The Compounds of The Alkali Metals	Easy
11th	34	Chemical Bonding and Molecular Structure	Hybridization	Medium
12th	35	Chemistry In Everyday Life	Cleansing Agents	Easy
12th	36	Amines	Diazonium Salts	Medium
12th	37	Surface Chemistry	Catalysis	Easy
12th	38	Alcohols, Phenols and Ethers	Ethers	Medium
12th	39	Biomolecules	Carbohydrates	Easy
11th	40	Equilibrium	Applications of Equilibrium Constant	Easy
11th	41	The P-Block Elements	Boron Family	Easy
11th	42	Hydrocarbons	Alkenes	Easy
12th	43	Amines	Chemical Reaction	Medium
12th	44	Aldehydes, Ketones and Carboxylic Acids	Chemical Properties	Easy
12th	45	Aldehydes, Ketones and Carboxylic Acids	Chemical Properties	Medium
11th	51	Hydrocarbons	Aromatic Hydrocarbon	Medium
11th	52	Structure of Atom	Bohr's Model For Hydrogen Atom	Difficult
12th	53	Coordination Compounds	Bonding In Coordination Compounds	Medium
11th	54	Structure of Atom	de Broglie Equation	Medium
12th	55	Chemical Kinetics and Nuclear Chemistry	Order of Reaction From Reaction Mechanism	Medium

11th	56	Some Basic Concepts of Chemistry	Reactions In Solutions (Concentration Terms)	Easy
11th	57	Redox Reactions	Calculations Based On Volumetric Analysis	Easy
11th	58	States of Matter	Daltons Law of Partial Pressures	Medium
11th	59	Some Basic Concepts of Chemistry	Reactions In Solutions (Concentration Terms)	Medium

Note - As this being a memory-based analysis our experts could figure out 24 out of 30 questions from Section - A (15 questions) and Section - B (9 questions)

Mathematics (Section 5 & 6)

Mathematics was moderate to difficult. Mathematics had 9 easy questions and 13 medium questions. Following is the question distribution as per Class, Chapter, Topic & Difficulty

Class	Question No	Chapter Name	Topic Name	Difficulty Level
12th	61	Differential Equations	Linear Differential Equations	Easy
12th	62	Application of Integrals	Area Under Curves	Easy
12th	63	Three Dimensional Geometry	Line and Plane	Easy
12th	64	Integrals	Limit by integration	Medium
11th	65	Conic Sections	Hyperbola	Medium
12th	66	Limits	Intermediate Form	Medium
11th	67	Complex Number	Rotation of Complex Numbers	Medium
12th	68	Limits and Derivatives	Algebraic Limit	Medium
12th	69	Probability	Binomial Distribution	Easy
12th	70	Continuity and Differentiability	Continuity	Easy
11th	71	Mathematical Reasoning	Double Implies	Easy
12th	72	Introduction To Three Dimensional Geometry	Distance between point and a line	Medium
11th	81	Quadratic Equations	Common Root	Medium
12th	82	Inverse Trigonometric Functions	Sum/Difference Formulae For Inverse (Tangent) Functions	Easy
11th	83	Sequences and Series	Arithmetic Progression (A.P.)	Medium
11th	84	Permutations and Combinations	Permutations	Medium
12th	85	Matrices	Adjoint of Matrix	Medium
12th	86	Relations and Functions	Functional Equation	Medium
11th	87	Sequences and Series	Geometric Progression (G.P.)	Easy
11th	88	Permutations and Combinations	Gap Method	Easy

11th	89	Permutations and Combinations	Permutations	Medium
12th	90	Definite Integral	Leibnitz theorem	Medium

Note - As this is a memory-based analysis our experts could figure out 22 out of 30 questions from Section - A (12 questions) and Section - B (10 questions)

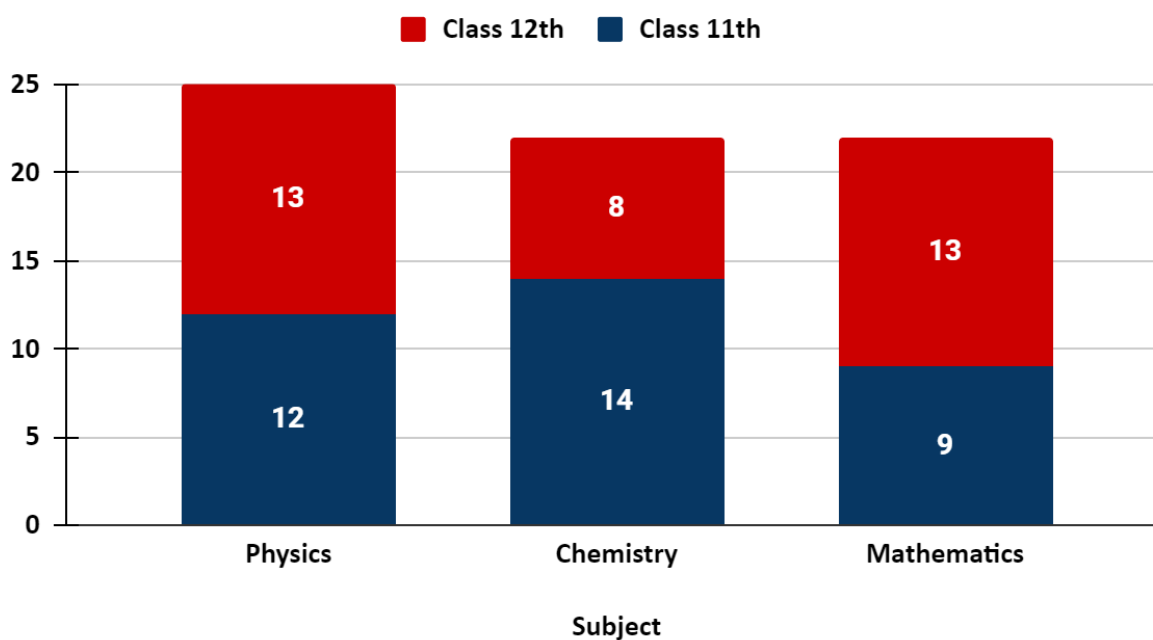
Class Wise Question Distribution

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	13	52	40%	43%
Chemistry	14	56	10	40	47%	33%
Mathematics	9	36	13	52	30%	43%
Grand Total	35	140	36	144	39%	40%

Note - Percentage are taken out of 30 questions only. Grand Total percentages represent the average of the above-mentioned percentages.

Class Wise Question Distribution



Overall Difficulty Level Analysis

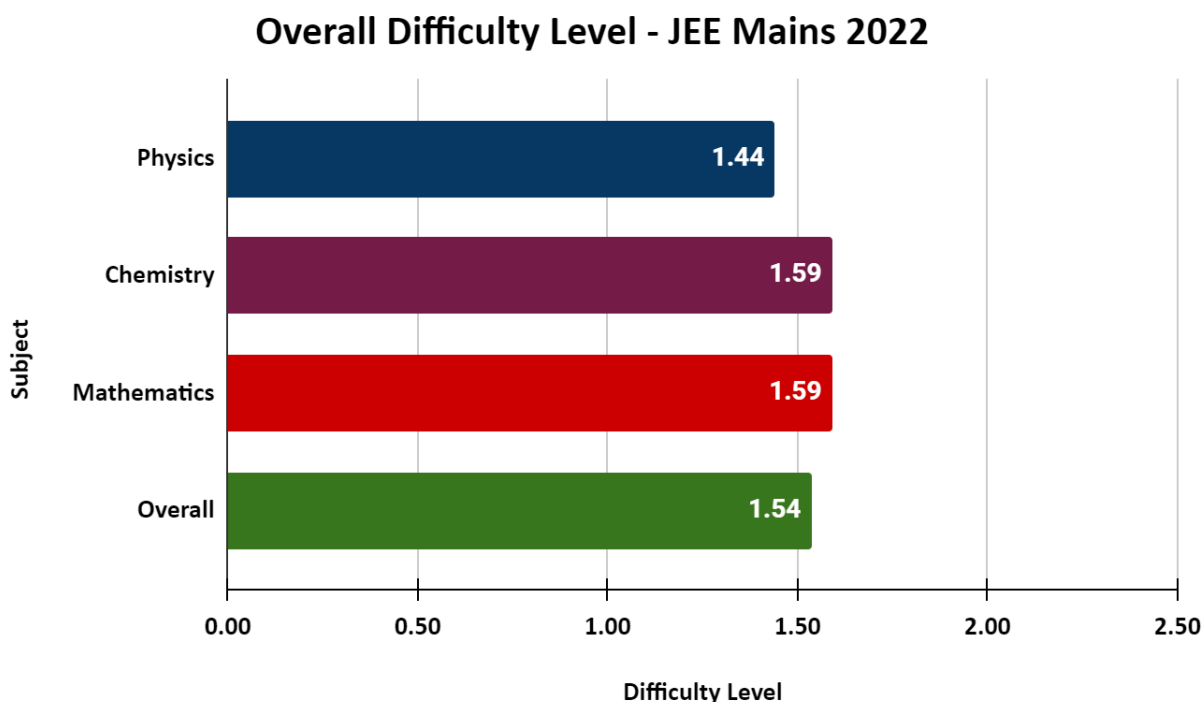
In this analysis, we have rated every question on a scale of 1 to 3. The ratings are done by our expert faculty. The individual ratings are then averaged to calculate the overall difficulty level.

Easy - 1

Medium - 2

Difficult - 3

Subject	Difficulty Level
Physics	1.44
Chemistry	1.58
Mathematics	1.59
Overall	1.54



As per our expert faculties this year JEE Mains session 2 B.E/B. Tech Shift 1 was easy to moderate difficulty.