

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

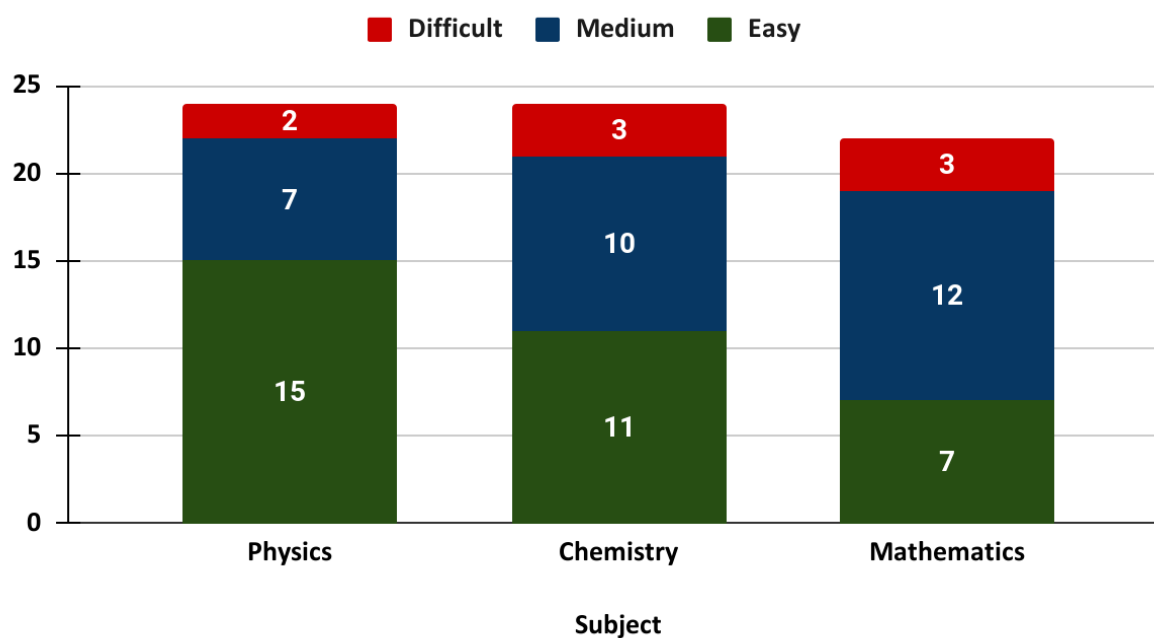
- Section A consists of 20 questions in each subject (Question Numbers – 01 to 20, 31 to 50 and 61 to 80). All questions are compulsory.
- Section B consisted of 10 questions in each subject (Question Nos – 21 to 30, 51 to 60 and 81 to 90). In Section B, a candidate needs to attempt any 5 questions out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

Subject Wise Analysis

Although it is the analysis of memory-based questions, our experts figured out 70 questions out of 90 questions i.e, **24** 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	15	60	7	28	2	8	24	96
Chemistry	11	44	10	40	3	12	24	96
Mathematics	7	28	12	48	3	12	22	88
Grand Total	33	132	29	116	8	32	70	280

Subject Wise Difficulty Level



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

Physics (Section 1 & 2)

Physics was easiest compared to Chemistry & Maths. Physics had 15 easy questions, 7 medium-type questions and 2 difficult questions. Following is the question distribution table as per Class, Chapter, Topic & Difficulty -

Class	Question No	Chapter Name	Topic Name	Difficulty Level
12th	1	Alternating Current	Alternating Current and EMF	Easy
12th	2	Communication Systems	Space waves	Easy
12th	3	Magnetism and Matter	Bar Magnet	Easy
11th	4	Units and Measurements	Accuracy, Precision of Instruments and Errors In Measurement	Easy
11th	5	Laws of Motion	Friction	Easy
12th	6	Current Electricity	Meter Bridge	Easy
12th	7	Wave Optics	Superposition of The Waves	Medium
11th	8	Work, Energy and Power	Work Done By Gravitational Forces	Medium
12th	9	Semiconductor Electronics : Materials, Devices and Simple Circuits	Digital Electronics and Logic Gates	Easy
11th	10	Motion In A Straight Line	Motion under gravity	Easy
11th	11	Gravitation	Earth Satellite	Easy
11th	12	Mechanical Properties of Solids	Stress and Strain	Medium
12th	13	Current Electricity	Cells In Series and Parallel	Easy
12th	14	Electric Charges and Fields	Forces Between Multiple Charges	Difficult
11th	15	Thermal Properties of Matter	Heat Transfer	Medium
11th	16	Oscillations	Simple Harmonic Motion	Difficult
12th	17	Electromagnetic Waves	Relation Between Electric Field, Magnetic Field and Speed of Light	Easy
12th	18	Electric Charges and Fields	Gauss's Law	Medium
11th	21	Kinetic Theory	Kinetic Theory of An Ideal Gas	Easy
11th	22	Motion In A Plane	Projectile Motion	Easy
12th	23	Wave Optics	Resolving Power of Optical Instruments	Easy
12th	24	Dual Nature of Radiation and Matter	Wave Nature of Matter	Medium
12th	25	Magnetism and Matter	Earth's Magnetism	Medium

12th	27	Nuclei	Radioactivity	Easy
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Note - As this being a memory-based analysis our experts could figure out 24 out of 30 questions from Section - A (18 questions) and Section - B (6 questions)

Chemistry (Section 3 & 4)

Chemistry was moderate to difficult level questions. Chemistry had the most number of difficult questions i.e, 3. Chemistry had 10 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
12th	31	Solutions	Colligative Properties	Difficult
11th	32	Equilibrium	Solubility Product	Medium
12th	33	Surface Chemistry	Adsorption	Easy
12th	34	Polymers	Classification of Polymerisation Reaction	Easy
12th	35	Alcohols, Phenols and Ethers	Chemical Properties of Alcohols	Easy
12th	36	The P-Block Elements	Group 15 Elements	Easy
12th	37	The D and F-Block Elements	General Properties of The Transition Elements (D-Block)	Medium
11th	38	Structure of Atom	Bohr's Model For Hydrogen Atom	Medium
12th	39	Solutions	Concentration terms	Difficult
11th	40	Environmental Chemistry	Water Pollution	Easy
12th	41	Chemistry In Everyday Life	Chemical Food	Easy
11th	42	Hydrogen	Hydrogen Peroxide (H ₂ O ₂)	Medium
12th	43	Amines	Test of Amines	Medium
12th	44	General Principles and Processes of Isolation of Elements	Purification of metals	Easy
11th	45	The S-Block Elements	Anomalous Behaviour of Beryllium	Medium
11th	46	Structure of Atom	Bohr's Model For Hydrogen Atom	Medium
11th	51	Hydrocarbons	Aromatic Hydrocarbon	Medium
12th	52	The P-Block Elements	Group 15 Elements	Medium
11th	53	Redox Reactions	Oxidation Number	Easy
11th	54	Chemical Bonding and Molecular Structure	Molecular Orbital Theory (MOT)	Easy
11th	55	Redox Reactions	Redox Reactions As The Basis of Titrations	Medium
11th	56	Classification of Elements and Periodicity In Properties	Nature of oxide	Easy

12th	57	Chemical Kinetics and Nuclear Chemistry	Nuclear Chemistry	Easy
11th	58	Redox Reactions	Oxidation and Reduction In Terms of Oxidation Number	Medium

Note - As this being a memory-based analysis our experts could figure out 24 out of 30 questions from Section - A (16 questions) and Section - B (8 questions)

Mathematics (Section 5 & 6)

Mathematics was easy to moderate difficulty. Mathematics had 7 easy questions, 12 medium questions and 3 difficult questions. Following is the question distribution as per Class, Chapter, Topic & Difficulty -

Class	Question No	Chapter Name	Topic Name	Difficulty Level
11th	61	Sequences and Series	Arithmetic Progression (A.P.)	Medium
11th	62	Probability	Definition of Probability	Easy
12th	63	Matrices	Characteristic equation	Easy
11th	64	Mathematical Reasoning	Double Implication	Medium
11th	65	Binomial Theorem	Remainder	Medium
12th	66	Relations	Types of Relations	Easy
11th	67	Trigonometric Functions	Trigonometric Series	Medium
12th	68	Integrals	Algebraic Integral	Difficult
11th	69	Limit	Algebraic Limit	Medium
12th	70	Matrices	Adjoint of Matrix	Easy
12th	71	Differential Equations	Methods of Solution of Ordinary Differential Equation of First Order and First Degree	Medium
12th	72	Matrices	Product of Matrices	Medium
12th	73	Application of Integrals	Area Under Curves	Medium
11th	74	Trigonometric Functions	Heights and Distances	Easy
12th	75	Integrals	Definite Integral	Medium
11th	81	Conic Sections	Ellipse	Easy
12th	82	Application of Derivatives	Tangent and Normals	Medium
11th	83	Binomial Theorem	General Term In The Expansion of $(A + X)^N$	Difficult
11th	84	Complex Number	Cube Roots of Unity	Medium
11th	85	Statistics	Variance and Standard Deviation	Easy
11th	86	Sequences and Series	Sum To N Terms of Special Series	Difficult
12th	87	Application of Derivatives	Tangent and Normals	Medium

Note - As this being a memory-based analysis our experts could figure out 22 out of 30 questions from Section - A (15 questions) and Section - B (7 questions)

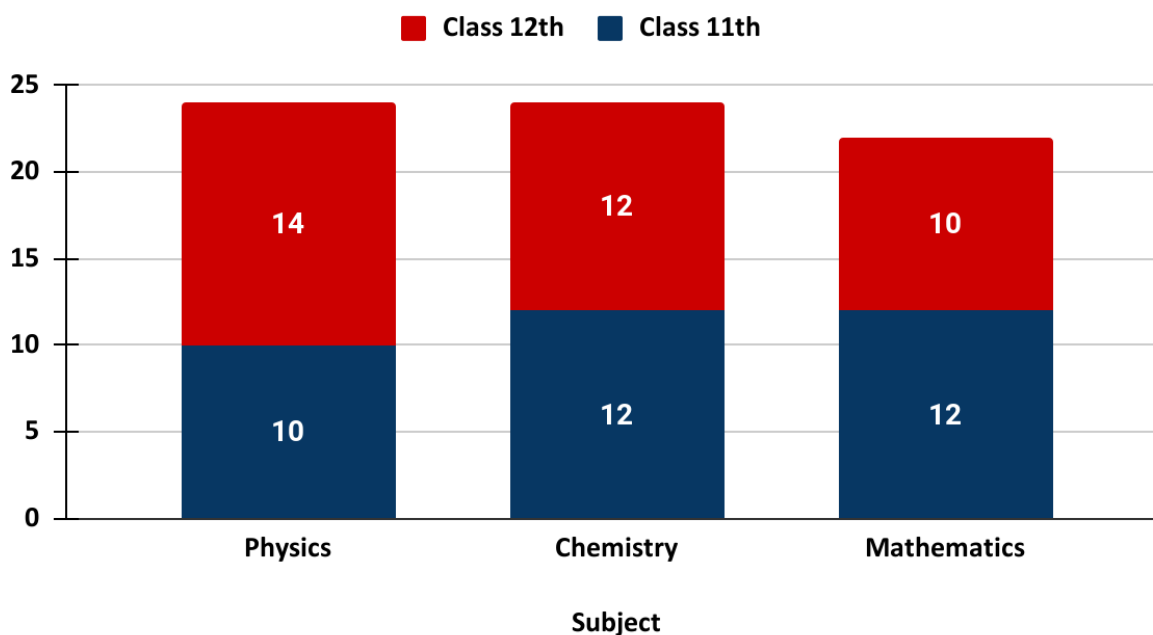
Class Wise Question Distribution

As per our expert faculties the questions from the Class 12th syllabus dominated the 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	10	40	14	56	33%	47%
Chemistry	12	48	12	48	40%	40%
Mathematics	12	48	10	40	40%	33%
Grand Total	34	136	36	144	38%	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

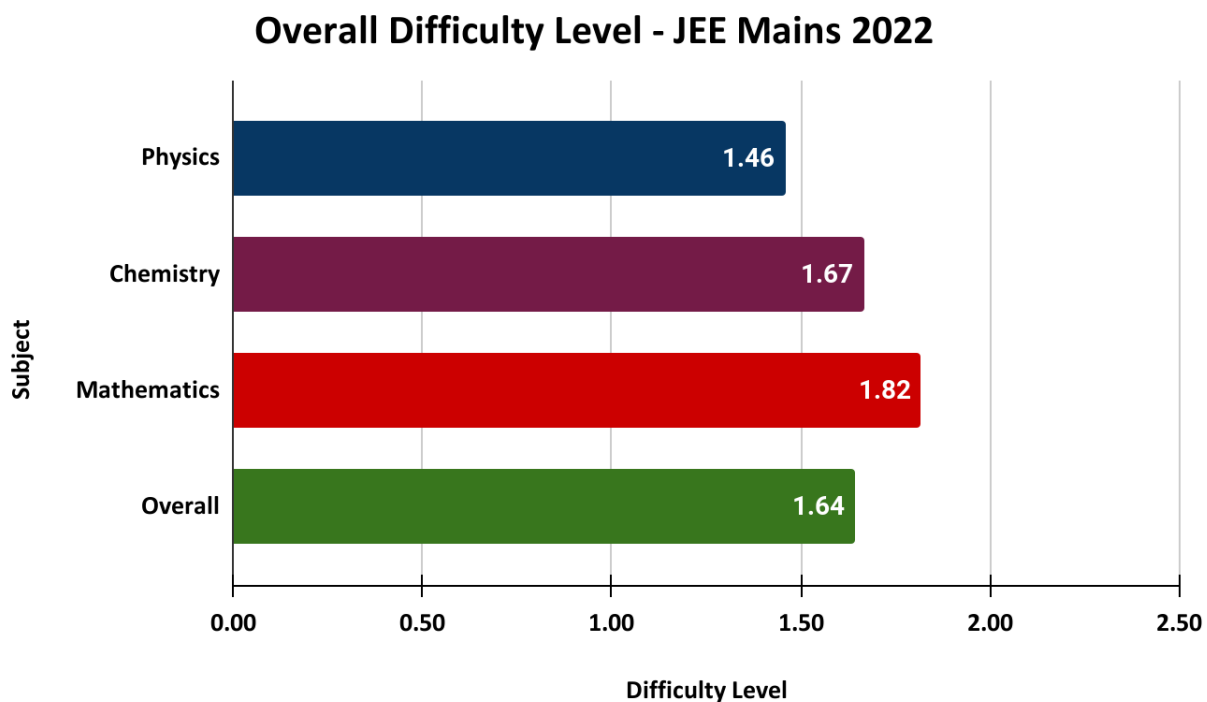
In this analysis, we have rated every question on a scale of 1 to 3. The ratings are done by our expert faculty. The individual ratings are then averaged to calculate the overall difficulty level.

Easy - 1

Medium - 2

Difficult - 3

Subject	Difficulty Level
Physics	1.46
Chemistry	1.67
Mathematics	1.82
Overall	1.64



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