

In-Depth Analysis - JEE Mains S2 B.E/B.Tech Shift 2 (3:00 P.M to 6:00 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

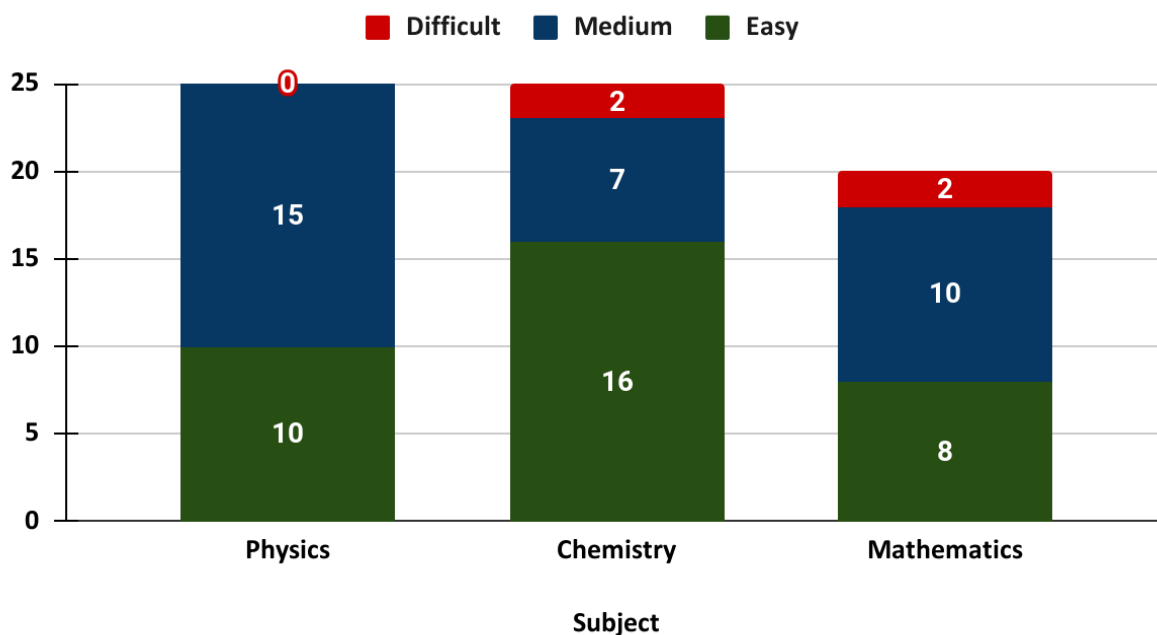
- Section A consists of 20 questions in each subject (Question Numbers – 01 to 20, 31 to 50 and 61 to 80). All questions are compulsory.
- Section B consisted of 10 questions in each subject (Question Nos – 21 to 30, 51 to 60 and 81 to 90). In Section B, a candidate needs to attempt any 5 questions out 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, **25** 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	10	40	15	60	0	0	25	100
Chemistry	16	64	7	28	2	8	25	100
Mathematics	8	32	10	40	2	8	20	80
Grand Total	34	136	32	128	4	16	70	280

Subject Wise Difficulty Level



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

Physics (Section 1 & 2)

Physics was moderate subject to attempt. Physics had 10 easy questions and 15 medium-type questions. Following is the question distribution table as per Class, Chapter, Topic & Difficulty -

Class	Question No	Chapter Name	Topic Name	Difficulty Level
11th	1	Oscillations	Some Systems Executing Simple Harmonic Motion	Medium
11th	2	Work, Energy and Power	Work, Energy Theorem	Medium
12th	3	Dual Nature of Radiation and Matter	Einstein's Photoelectric Equation: Energy Quantum of Radiation	Easy
11th	4	Units and Measurements	Dimensional Analysis and Its Applications	Medium
12th	5	Electric Charges and Fields	Motion of A Charged Particle In Uniform Electric Field	Medium
12th	6	Moving Charges and Magnetism	Magnetic Field Due To Various Current Carrying Conductors	Easy
11th	7	Mechanical Properties of Solids	Young Module	Medium
11th	8	Mechanical Properties of Fluids	Bernoulli's Principle	Medium
11th	9	Laws of Motion	Connected Bodies	Easy
11th	10	Laws of Motion	Newton's Second Law of Motion	Easy
12th	11	Moving Charges and Magnetism	Magnetic Force On A Current Carrying Conductor	Easy
11th	12	Kinetic Theory	Internal Energy	Medium
12th	13	Ray Optics and Optical Instruments	Lens Maker's Formula	Medium
11th	14	Motion In A Plane	Motion In A Plane	Medium
12th	15	Electromagnetic induction	L-R Circuit	Easy
12th	16	Ray optics	Newton's formula	Easy
12th	19	Experimental Physics	Determination of G Using A Simple Pendulum	Easy
12th	20	Current Electricity	Combination of Resistors – Series and Parallel	Medium
11th	21	Motion In A Straight Line	Motion under Gravity	Medium
11th	22	Oscillations	Some Systems Executing Simple Harmonic Motion	Medium
12th	23	Ray Optics and Optical	Spherical Mirrors	Easy

		Instruments		
12th	27	Electrostatic Potential and Capacitance	Capacitors With Dielectrics	Easy
11th	28	System of Particles and Rotational Motion	Centre of Mass	Medium
12th	29	Current Electricity	Electrical Energy, Power	Medium
11th	30	Thermodynamics	Thermodynamic Processes	Medium

Note - As this being a memory-based analysis our experts could figure out 25 out of 30 questions from Section - A (18 questions) and Section - B (7 questions)

Chemistry (Section 3 & 4)

Chemistry was easiest subject to attempt . Chemistry had 16 easy question, 7 medium 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
11th	31	Some Basic Concepts of Chemistry	Stoichiometry and Stoichiometric Calculations	Easy
11th	32	Classification of Elements and Periodicity In Properties	Periodic Trends In Physical Properties	Easy
12th	33	Coordination Compounds	Valance Bont Theory	Medium
12th	34	Polymers	Classification of Polymers	Easy
11th	35	States of Matter	Kinetic Molecular Theory of Gases	Easy
11th	36	Hydrocarbons	Electrophilic Substitution Reactions	Medium
11th	37	Hydrocarbons	Alkanes	Difficult
12th	38	Surface Chemistry	Adsorption	Easy
12th	39	The P-Block Elements	Nitric Acid	Easy
12th	40	Alcohols, Phenols and Ethers	Chemical Properties	Medium
11th	41	Hydrogen	Water	Easy
12th	42	Amines	Chemical Reaction	Easy
12th	43	General Principles and Processes of Isolation of Elements	Ellingham Diagrams	Medium
12th	44	The P-Block Elements	Group 15 Elements	Easy
11th	45	Organic Chemistry Some Basic Principles and Techniques	Purification of Compounds	Easy
12th	46	Biomolecules	Carbohydrates	Medium
12th	47	The P-Block Elements	Group 15 Elements	Easy

12th	48	The D and F-Block Elements	The Lanthanoids	Easy
12th	49	Chemistry In Everyday Life	Drugs and Their Classification	Easy
12th	50	Aldehydes, Ketones and Carboxylic Acids	Chemical Reactions of Carboxylic Acids	Difficult
11th	51	Equilibrium	Equilibrium Constant	Medium
12th	52	Solutions	Ideal and Non-Ideal Solutions	Medium
12th	53	Chemical Kinetics and Nuclear Chemistry	Activation Energy	Easy
11th	54	Thermodynamics	State Function	Easy
11th	55	Hydrogen	Hydrogen Peroxide (H ₂ O ₂)	Easy

Note - As this being a memory-based analysis our experts could figure out 25 out of 30 questions from Section - A (20 questions) and Section - B (5 questions)

Mathematics (Section 5 & 6)

Mathematics was moderate subject to attempt. Mathematics had 8 easy questions, 10 medium questions and 2 difficult question. Following is the question distribution as per Class, Chapter, Topic & Difficulty -

Class	Question No	Chapter Name	Topic Name	Difficulty Level
12th	61	Probability	Conditional Probability	Medium
12th	62	Inverse Trigonometric Functions	The Domains and Ranges of Inverse Trigonometric Functions	Easy
12th	63	Three Dimensional Geometry	Coplanar Lines	Easy
11th	64	Conic Sections	Circle and Parabola	Medium
12th	65	Continuity	In built Limit	Difficult
12th	66	Differential Equations	Linear Differential Equations	Medium
12th	67	Application of Derivatives	Increasing and Decreasing Functions	Easy
12th	68	Continuity and Differentiability	Derivatives of Functions In Parametric Forms	Medium
12th	69	Differential Equations	Formation of Ordinary Differential Equation (Ode)	Easy
12th	70	Matrices	Symmetric and Skew Symmetric Matrix	Medium
11th	71	Conic Sections	Circle	Easy
11th	72	Mathematical Reasoning	Implications	Easy
12th	73	Definite Integration	Reduction Formula	Medium
11th	74	Quadratic Equations	Transformation of Polynomial	Easy

11th	81	Permutations and Combinations	Selection	Medium
12th	82	Functions	Basic	Easy
12th	83	Definite Integration	Reduction Formula	Difficult
11th	84	Sequences and Series	Geometric Progression (G.P.)	Medium
11th	85	Trigonometric Functions	Trigonometric Equations	Medium
12th	86	Probability	Probability Distribution	Medium

Note - As this being a memory-based analysis our experts could figure out 20 out of 30 questions from Section - A (14 questions) and Section - B (6 questions)

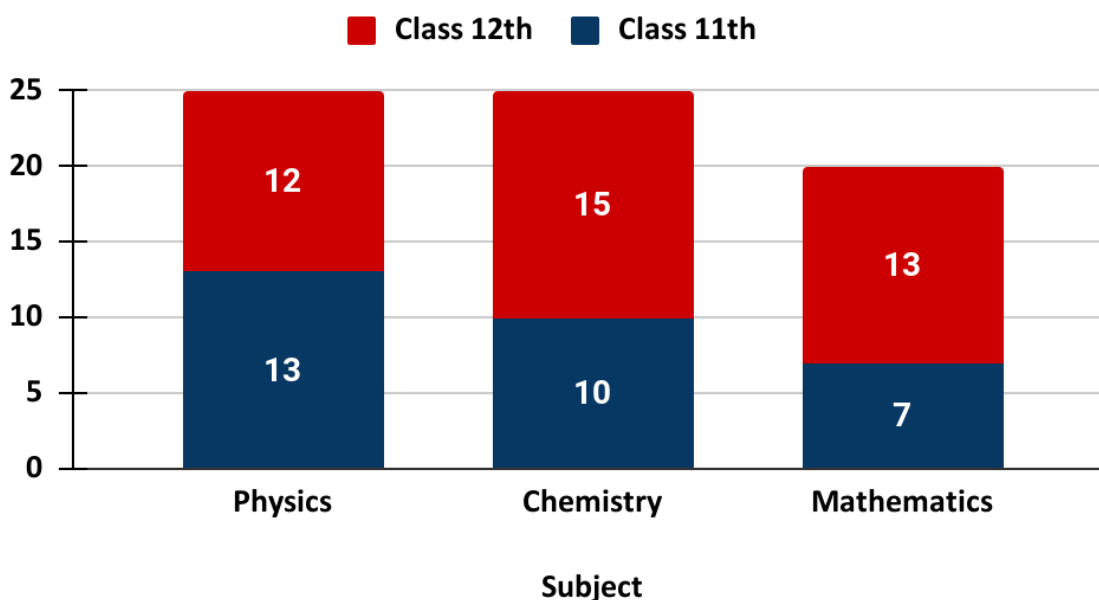
Class Wise Question Distribution

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	13	52	12	48	43%	40%
Chemistry	10	40	15	60	33%	50%
Mathematics	7	28	13	52	23%	43%
Grand Total	30	120	40	160	33%	44%

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.

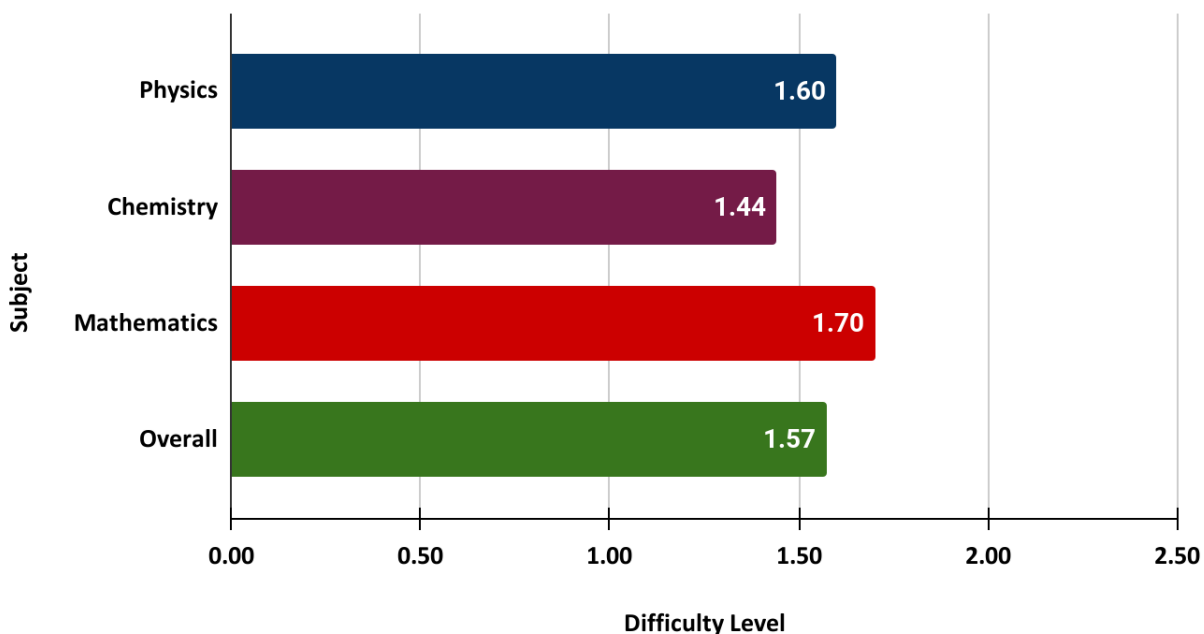
Easy - 1

Medium - 2

Difficult - 3

Subject	Difficulty Level
Physics	1.60
Chemistry	1.44
Mathematics	1.70
Overall	1.57

Overall Difficulty Level - JEE Mains 2022



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