

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

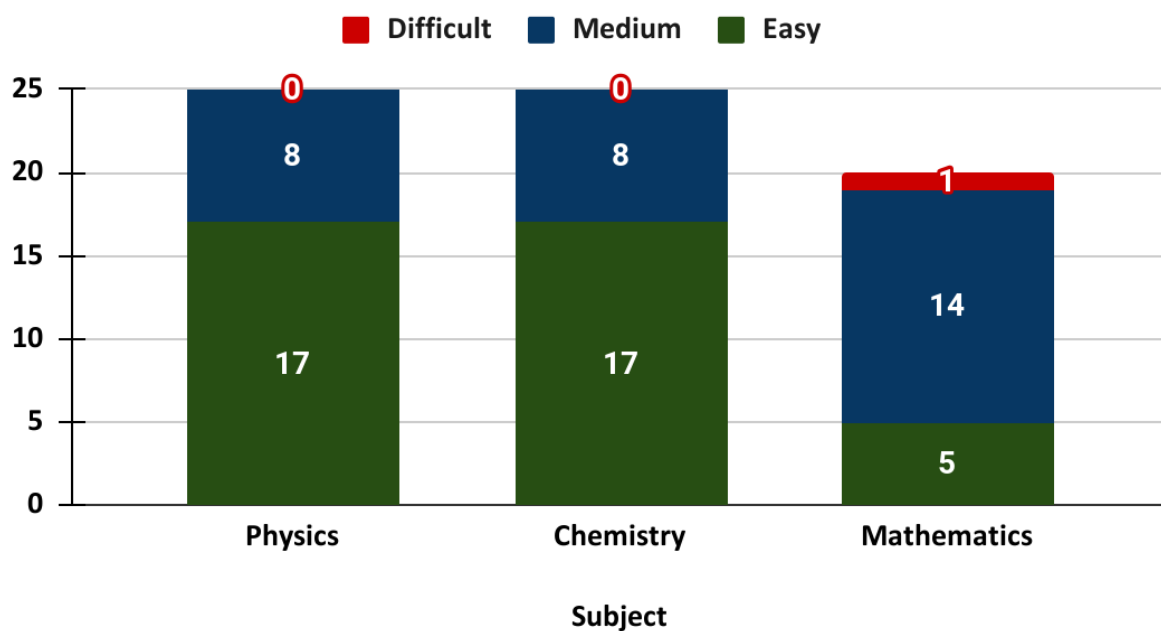
- Section A consists of 20 questions in each subject (Question Numbers – 01 to 20, 31 to 50 and 61 to 80). All questions are compulsory.
- Section B consisted of 10 questions in each subject (Question Nos – 21 to 30, 51 to 60 and 81 to 90). In Section B, a candidate needs to attempt any 5 questions out 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	17	68	8	32	0	0	25	100
Chemistry	17	68	8	32	0	0	25	100
Mathematics	5	20	14	56	1	4	20	80
Grand Total	39	156	30	120	1	4	70	280

Subject Wise Difficulty Level



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

Physics (Section 1 & 2)

Physics was easy subject to attempt. Physics had 17 easy questions and 8 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	Wave Optics	Polarisation	Easy
11th	2	System of Particles and Rotational Motion	Torque	Easy
11th	3	Work, Energy and Power	Relation between P and K	Easy
11th	4	Laws of Motion	Application of Laws of Motion	Easy
11th	5	Gravitation	Gravitational Potential Energy	Easy
12th	6	Ray Optics and Optical Instruments	Refraction	Medium
11th	7	Motion In A Straight Line	Motion Under Gravity	Easy
11th	8	Thermodynamics	Calculating Work Done By Indicator Diagram	Easy
12th	9	Magnetism and Matter	Earths Magnetism	Easy
12th	10	Nuclei	Law of Radioactive Decay	Medium
12th	11	Electric Charges and Fields	Coulomb's Law	Medium
12th	12	Electrostatic Potential and Capacitance	Capacitors and Capacitance	Medium
12th	13	Moving Charges and Magnetism	Magnetic Force On A Current Carrying Conductor	Easy
12th	14	Dual Nature of Radiation and Matter	Wave Nature of Matter	Easy
11th	15	Mechanical Properties of Solids	Elastic Moduli	Easy
11th	16	Thermodynamics	Calculating Work Done By A Gas	Easy
11th	17	Units and Measurements	Dimensions of Physical Quantities	Easy
12th	18	Current Electricity	Drift of Electrons and The Origin of Resistivity	Easy
11th	19	Motion In A Straight Line	Kinematic Equations For Uniformly Accelerated Motion	Medium
12th	20	Nuclei	Size of nuclei or radius of nuclei	Easy
12th	21	Semiconductor Electronics : Materials, Devices and Simple Circuits	Junction Transistor	Easy
11th	22	Mechanical Properties of Fluids	Stoke's law or terminal velocity	Medium

12th	28	Alternating Current	Lc Oscillations	Medium
12th	29	Current Electricity	Resistivity of Various Materials	Easy
11th	30	Oscillations	Some Systems Executing Simple Harmonic Motion	Medium

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)

Chemistry (Section 3 & 4)

Chemistry was also easy subject to attempt. Chemistry had 17 easy question & 8 medium questions. Following is the question distribution table as per Class, Chapter, Topic, & Difficulty -

Class	Question No	Chapter Name	Topic Name	Difficulty Level
12th	31	Polymers	Classification of Polymers	Easy
12th	32	Alcohols, Phenols and Ethers	Chemical Properties	Easy
12th	33	Haloalkanes and Haloarenes	Chemical Properties	Easy
12th	34	The D and F-Block Elements	General Properties of The Transition Elements (D-Block)	Medium
12th	35	The P-Block Elements	Compounds of Sulphur	Easy
11th	36	Environmental Chemistry	Atmospheric Pollution	Easy
12th	37	Surface Chemistry	Adsorption	Easy
11th	38	Thermodynamics	Pressure-Volume Work	Medium
12th	39	Amines	Chemical Reaction	Easy
11th	40	Structure of Atom	Quantum Mechanical Model of The Atom	Easy
11th	41	Organic Chemistry Some Basic Principles and Techniques	Nomenclature of Organic Compounds	Medium
11th	42	Equilibrium	The Ph Scale	Easy
11th	43	The P-Block Elements	Boron Family	Medium
11th	44	The S-Block Elements	Compounds of Magnesium and Calcium	Easy
12th	45	Haloalkanes and Haloarenes	Chemical Properties	Easy
12th	46	General Principles and Processes of Isolation of Elements	Purification of metal	Easy
12th	47	Biomolecules	Carbohydrates	Easy
12th	51	Chemistry In Everyday Life	Therapeutic Action of Different Classes of Drugs	Easy
11th	52	Chemical Bonding and Molecular Structure	Hybridization	Easy
12th	53	ElectroChemistry	Nernst Equations	Medium

12th	54	Chemical Kinetics and Nuclear Chemistry	Nuclear Chemistry	Medium
11th	55	States of Matter	Daltons Law of Partial Pressures	Easy
11th	56	The P-Block Elements	Compounds of Carbon	Medium
12th	57	The P-Block Elements	Nitric Acid	Medium
12th	58	Coordination Compounds	WernerS Theory of Coordination Compounds	Easy

Note - As this being a memory-based analysis our experts could figure out 25 out of 30 questions from Section - A (17 questions) and Section - B (8 questions)

Mathematics (Section 5 & 6)

Mathematics was moderate subject to attempt. Mathematics had 5 easy questions, 14 medium questions and 1 difficult question. Following is the question distribution as per Class, Chapter, Topic & Difficulty -

Class	Question No	Chapter Name	Topic Name	Difficulty Level
11th	61	Binomial Theorem	Telescopic series	Medium
12th	62	Vector Algebra	Cross Product	Medium
12th	63	Introduction To Three Dimensional Geometry	Line and Plane	Easy
11th	64	Trigonometric Functions	Trigonometric Equations	Easy
12th	65	Continuity and Differentiability	Continuity	Easy
12th	66	Probability	Bayes Theorem	Medium
11th	67	Conic Sections	Circle	Medium
12th	68	Inverse Trigonometric Functions	The Domains of Inverse Trigonometric Functions	Medium
11th	69	Complex Number and Quadratic Equations	Geometry of Complex Numbers	Medium
12th	70	Differential Equations	Homogenous	Medium
11th	71	Mathematical Reasoning	Implications	Easy
12th	72	Integrals	Indefinite Integral	Difficult
12th	81	Vector Algebra	Cross Product	Medium
12th	82	Probability	Bernoulli Trials and Binomial Distribution	Medium
11th	83	Permutations and Combinations	Permutations	Medium
12th	84	Determinants	System of Equation	Medium

Note - As this being a memory-based analysis our experts could figure out 20 out of 30 questions from Section - A (16 questions) and Section - B (4 questions)

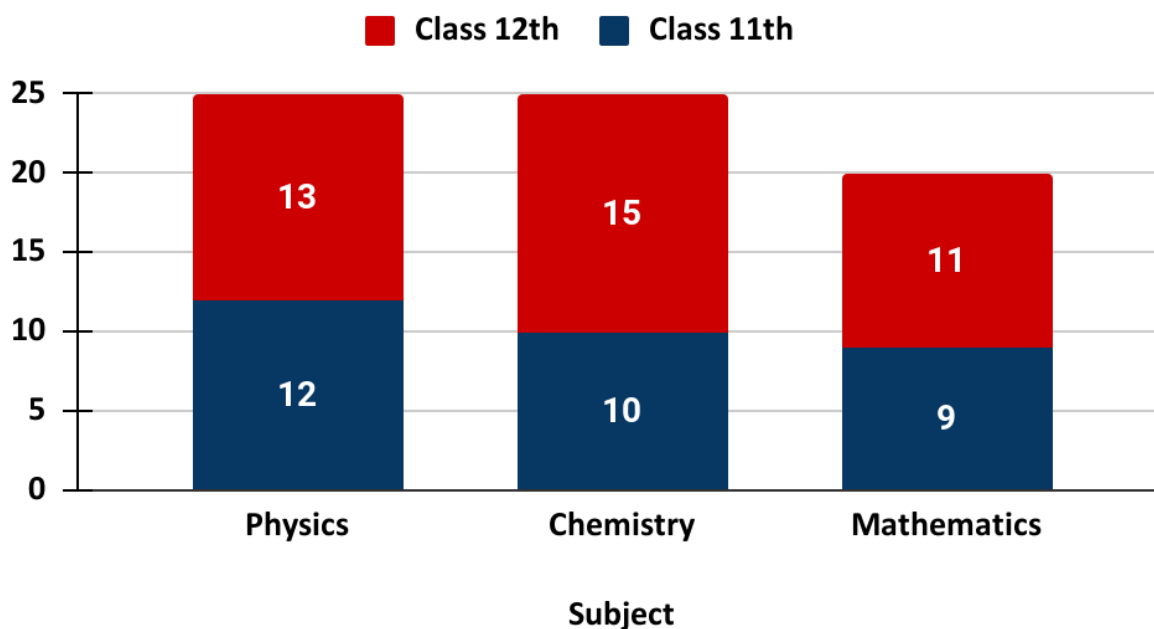
Class Wise Question Distribution

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	12	48	13	52	40%	43%
Chemistry	10	40	15	60	33%	50%
Mathematics	9	36	11	44	30%	37%
Grand Total	31	124	39	156	34%	43%

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.

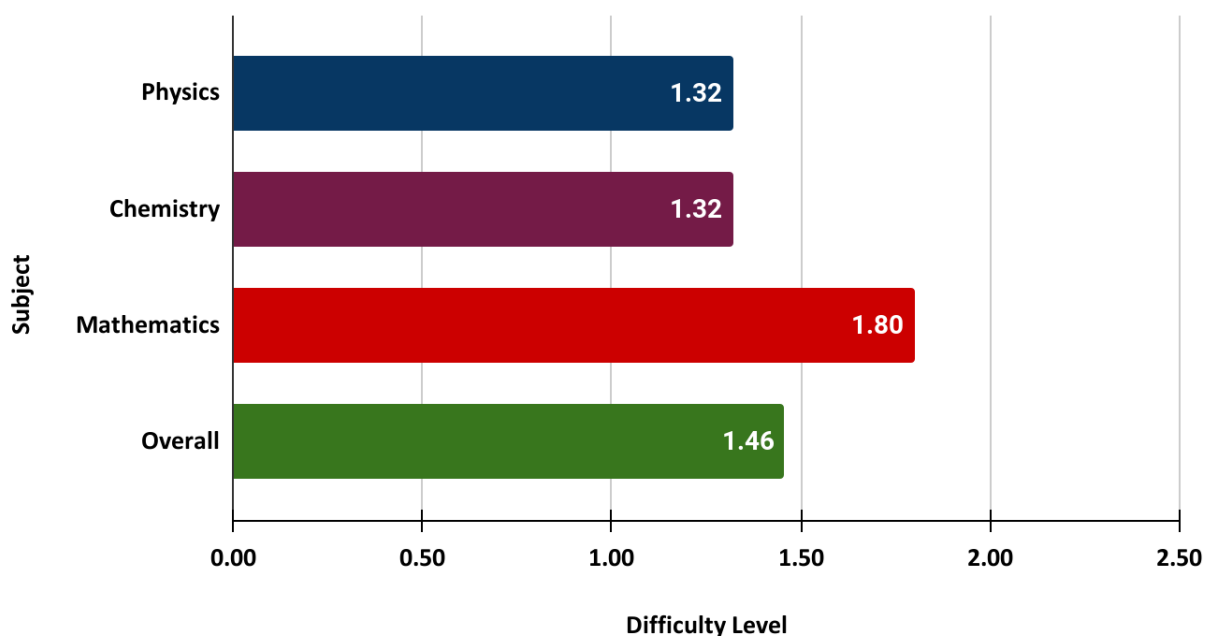
Easy - 1

Medium - 2

Difficult - 3

Subject	Difficulty Level
Physics	1.32
Chemistry	1.32
Mathematics	1.80
Overall	1.46

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.