

In-Depth Analysis - JEE Mains B.Tech June 25, 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 (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
Total	6	90	75	360

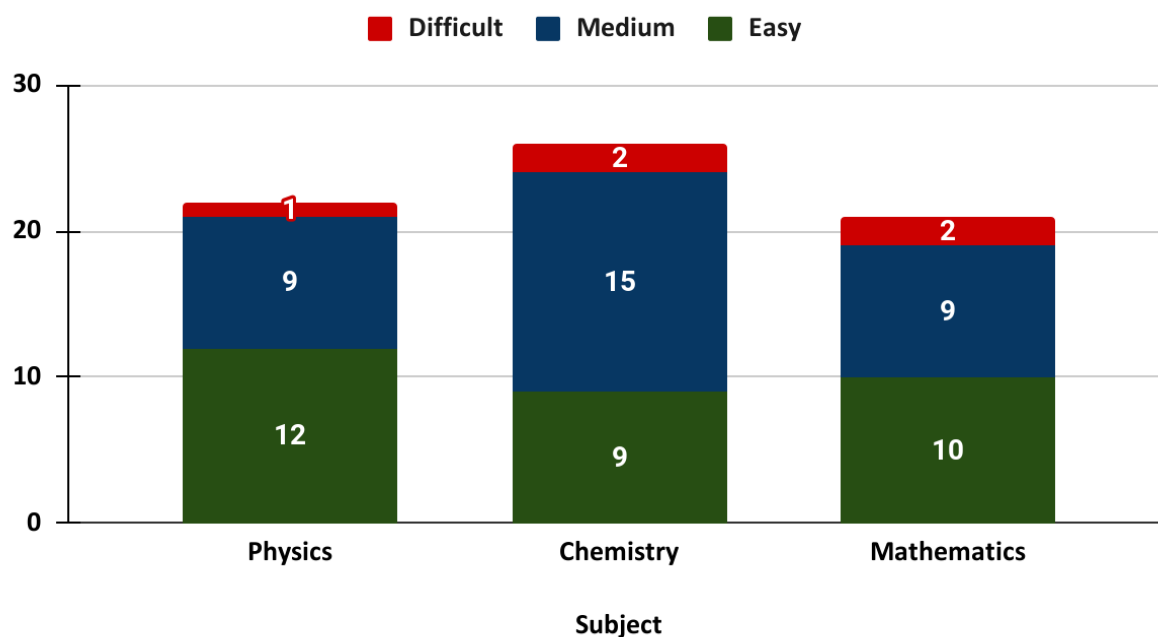
- Section A (1), A (3) & A (5) was MCQ (Multiple Choice Questions), each question had 4 marks, students will be awarded 4 marks for the correct answer and -1 mark will be awarded for the incorrect answer.
- Section B (2), B (4) & B (6) was a single answer type questions, each question had 4 marks students 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 **69** questions out of 90 questions i.e, **22** questions in Physics, **26** 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	12	48	9	36	1	4	22	88
Chemistry	9	36	15	60	2	8	26	104
Mathematics	10	40	9	36	2	8	21	84
Grand Total	31	124	33	132	5	20	69	276

Subject Wise Difficulty Level



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

Physics (Section 1 & 2)

Physics was easier than Chemistry & Maths. Physics had 12 easy questions and 9 medium type questions & 1 difficult. Following is the question distribution table as per Class, Chapter, Topic and Difficulty -

Question No	Class	Chapter Name	Topic Name	Difficulty Level
1	12th	Electrostatic Potential and Capacitance	Capacitors and Capacitance	Easy
2	11th	Kinetic Theory	Degree of freedom	Easy
3	12th	Wave Optics	Polarisation	Easy
4	11th	Thermal Properties of Matter	Thermal Expansion	Medium
5	12th	Wave Optics	Superposition of The Waves	Medium
6	11th	Oscillations	Simple Harmonic Motion and Uniform Circular Motion	Easy
7	12th	Electrostatic Potential and Capacitance	Capacitors and Capacitance	Medium
8	12th	Moving Charges and Magnetism	Amperes Circuital Law	Easy
9	11th	System of Particles and Rotational Motion	Moment of Inertia	Difficult
10	12th	Electrostatic Potential and Capacitance	Electrostatic Potential	Medium
11	11th	Motion In A Plane	Projectile Motion	Medium
12	12th	Magnetism and Matter	Magnetic Properties of Materials	Easy
13	11th	Laws of Motion	Application of Laws of Motion	Medium
14	12th	Current Electricity	Cells In Series and Parallel	Medium
15	12th	Dual Nature of Radiation and Matter	Wave Nature of Matter	Easy
16	12th	Electromagnetic Waves	Important Characteristics and Nature of Electromagnetic Waves	Easy
17	11th	Gravitation	Earth Satellite	Easy
18	12th	Semiconductor Electronics : Materials, Devices and Simple Circuits	Digital Electronics and Logic Gates	Easy
19	11th	Thermal Properties of Matter	Calorimetry	Medium
20	12th	Current Electricity	Resistances	Easy
21	12th	Nuclei	Size of The Nucleus	Medium
22	11th	Laws of Motion	Friction	Easy

Chemistry (Section 3 & 4)

Chemistry was the hardest out of the three subjects. Chemistry had 15 medium and 9 easy questions & 2 difficult questions. Following is the question distribution table as per Class, Chapter, Topic and Difficulty -

Question No	Class	Chapter Name	Topic Name	Difficulty Level
12th	31	The D and F-Block Elements	Physical Properties	Easy
12th	32	Alcohols, Phenols and Ethers	Chemical Properties	Medium
12th	33	Chemistry In Everyday Life	Therapeutic Action of Different Classes of Drugs	Medium
12th	34	Haloalkanes and Haloarenes	Properties Haloalkanes	Easy
12th	35	Chemical Kinetics and Nuclear Chemistry	Numericals On Some Important First Order Reactions	Medium
11th	36	Organic Chemistry Some Basic Principles and Techniques	Methods of Purification of Organic Compounds	Medium
11th	37	Classification of Elements and Periodicity In Properties	Periodic Trends In Physical Properties	Medium
12th	38	Electrochemistry	Electrochemical Series	Medium
11th	39	Structure of Atom	Towards Quantum Mechanical Model of The Atom	Medium
12th	40	Environmental Chemistry	Water Pollution	Easy
12th	73	Surface Chemistry	Catalysis	Easy
12th	42	Alcohols, Phenols and Ethers	Reactions Involving R–O Bond Cleavage	Difficult
11th	43	Redox Reactions	Equivalent Weight	Medium
11th	44	Hydrogen	Water	Easy
12th	45	Solutions	Colligative Properties	Medium
12th	46	Coordination Compounds	Bonding In Coordination Compounds	Difficult
12th	47	General Principles and Processes of Isolation of Elements	Extraction of Metals (General)	Medium
11th	48	Thermodynamics	Enthalpy Change, $\Delta_r H$ of A Reaction – Reaction Enthalpy	Medium
11th	49	The P-Block Elements	Oxides of Nitrogen	Medium
11th	50	Structure of Atom	Towards Quantum Mechanical Model of The Atom	Medium
11th	51	Equilibrium	Solubility Equilibria of Sparingly Soluble Salts	Easy
11th	52	Chemical Bonding and Molecular Structure	Bond Parameters	Easy
12th	53	Chemical Kinetics and Nuclear Chemistry	Order and Molecularity	Medium

12th	54	Electrochemistry	Quantitative Aspects of Electrolysis and Faradays Laws	Medium
11th	55	Some Basic Concepts of Chemistry	Mole Concept and Molar Masses	Easy
11th	56	States of Matter	The Gas Laws	Easy

Mathematics (Section 5 & 6)

Mathematics was of easy to moderate difficulty. Mathematics had 10 easy questions, 9 medium questions and 2 were difficult. Following is the question distribution as per Class, Chapter, Topic & Difficulty -

Question No	Class	Chapter Name	Topic Name	Difficulty Level
61	11th	Trigonometric Functions	Trigonometric Ratios of Multiple Angles	Easy
62	12th	Differential Equations	Homogeneous Method	Easy
63	11th	Sets	Operations On Sets	Easy
64	11th	Sequences and Series	Arithmetic -Geometric Series (Agp)	Easy
65	12th	Application of Derivatives	Rate of Change of Quantities	Medium
66	12th	Probability	Total Probability	Medium
67	11th	Binomial Theorem		Medium
68	12th	Mathematical Reasoning		Easy
69	12th	Integrals	Definite Integral	Medium
70	11th	Conic Sections	Parabola	Difficult
71	12th	Determinants	System of equation	Easy
72	11th	Trigonometric Functions	Angle	Easy
73	11th	Quadratic Equations	Roots of Quadratic Equations	Medium
74	12th	Application of Integrals	Area Under Curves	Easy
75	11th	Sequences and Series	Arithmetic Progression (A.P.)	Easy
76	12th	Limits and Derivatives	Limit	Medium
77	11th	Permutations and Combinations	Fundamental Principle of Counting	Medium
78	11th	Statistics	Mean Deviation	Medium
79	12th	Integrals	Definite Integral	Difficult
80	11th	Binomial Theorem		Medium
81	11th	Conic Sections	Hyperbola	Easy

Class Wise Question Distribution

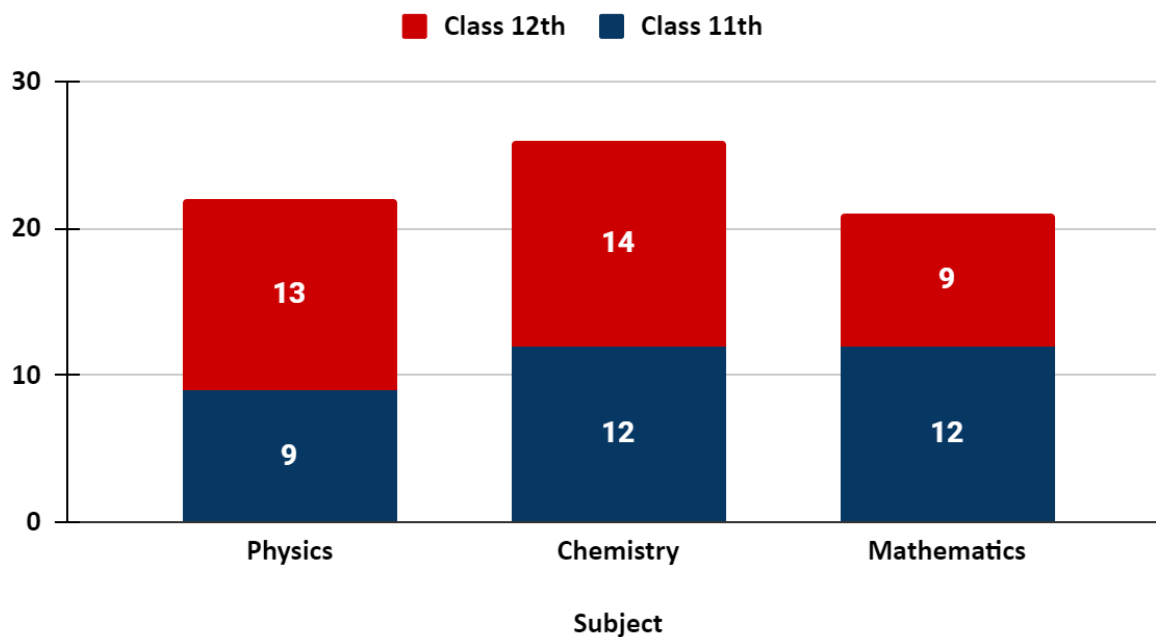
As per our expert faculties, the questions from Class 12th syllabus and Class 11th syllabus had an approximate equal weightage. Below is the Class wise question distribution table -

Subject	11th		12th		Total Percentage	
	No. of Questions	Total Marks	No of Questions	Total Marks	Class 11	Class 12
Physics	9	36	13	52	30%	43%
Chemistry	12	48	14	56	40%	47%
Mathematics	12	48	9	36	40%	30%
Grand Total	33	132	36	144	37%	40%



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Class Wise Question Distribution



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Overall Difficulty Level Analysis

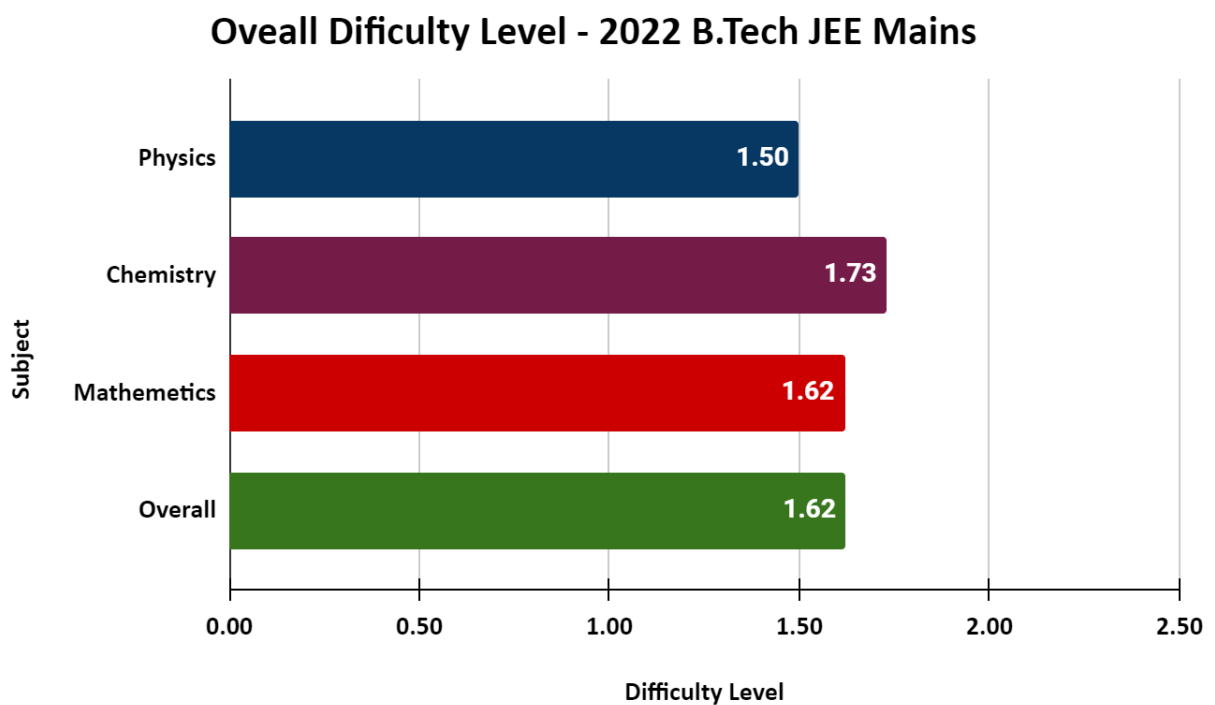
In this analysis, we have rated every question on a scale of 1 to 3. The ratings are done by our expert faculty. The individual ratings are then averaged to calculate the overall difficulty level.

Easy - 1

Medium - 2

Difficult - 3

Subject	Difficulty Level
Physics	1.50
Chemistry	1.73
Mathematics	1.62
Overall	1.62



As per our expert faculties, this year 25th June, JEE Main (B.Tech) Shift 2 was of moderate difficulty as same as that of the previous year. The Overall Difficulty rating for 2021 was 1.77 (moderately difficult)