

In-Depth Analysis - June 27 JEE Mains 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 (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

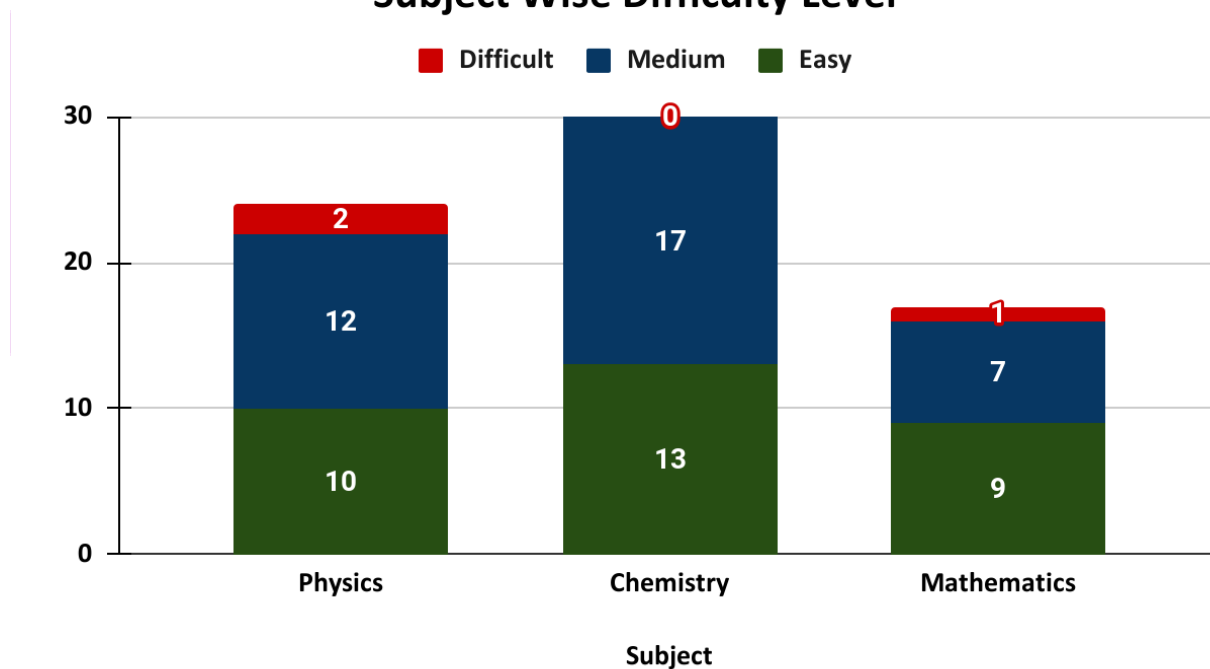
- Section A (1), A (3) & A (5) were MCQ (Multiple Choice Questions), each question had 4 marks, students will be awarded 4 marks for the correct answer and -1 mark will be awarded for the incorrect answer.
- Section B (2), B (4) & B (6) were single answer type questions, each question had 4 marks students 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 **71** questions out of 90 questions i.e, **24** questions in Physics, **30** questions in Chemistry and **17** 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	12	48	2	8	24	96
Chemistry	13	52	17	68	0	0	30	120
Mathematics	9	36	7	28	1	4	17	68
Grand Total	32	128	36	144	3	12	71	284

Subject Wise Difficulty Level



- Most of the Physics questions were either easy or of moderate difficulty & few were difficult.
- Most of the questions from Chemistry were at an easy to moderate level.
- Most of the questions from Mathematics were easy to moderate & one was difficult.

Physics (Section 1 & 2)

Physics was easy compared to Chemistry & Maths. Physics had 10 easy questions and 12 medium type questions & 2 questions were difficult. Following is the question distribution table as per Class,Chapter, Topic & Difficulty -

Question No	Class	Chapter Name	Topic Name	Difficulty Level
1	12th	Electrostatic Potential and Capacitance	Grouping of Capacitors	Medium
2	12th	Moving Charges and Magnetism	Motion of A Charged Particle In A Magnetic Field	Easy
3	12th	Ray Optics and Optical Instruments	Lens Makers Formula	Easy
4	11th	Thermodynamics	Indicator Diagram	Medium
5	11th	Thermodynamics	Thermodynamic Processes	Medium
6	11th	Waves	Simple Harmonic Progressive Wave	Easy
7	11th	Laws of Motion	Combined forces	Medium
8	12th	Electric Charges and Fields	Gauss's Law	Easy
9	12th	Semiconductor Electronics : Materials, Devices and Simple Circuits	Junction Transistor (Transistor as a switch)	Easy
10	12th	Current Electricity	Grouping of Resistance	Medium
11	11th	Gravitation	Gravitational Potential Energy	Difficult
12	11th	Motion In A Plane	Vector Algebra	Medium
13	12th	Moving Charges and Magnetism	Magnetic Force On A charge particle	Difficult
14	11th	Motion In A Straight Line	Motion under Gravity	Medium
15	12th	Atoms	Bohr Model of The Hydrogen Atom	Medium
16	11th	Oscillations	Simple Harmonic Motion	Easy
17	11th	Oscillations	Simple Harmonic Motion	Easy
18	11th	Units and Measurements	Dimensional Analysis and Its Applications	Easy
19	12th	Electric Charges and Fields	Electric Field	Medium
20	11th	Kinetic Theory	Kinetic Theory of An Ideal Gas	Easy
21	11th	Laws of Motion	Equilibrium of forces	Medium
22	11th	Laws of Motion	Application of Laws of Motion	Medium
23	12th	Magnetism and Matter	Earth's Magnetism	Medium
24	12th	Communication Systems	Bandwidth of Signals	Easy

Chemistry (Section 3 & 4)

Chemistry had moderate to difficult level of questions. Chemistry had 17 medium and 13 easy questions. Following is the question distribution table as per Class, Chapter, Topic & Difficulty -

Question No	Class	Chapter Name	Topic Name	Difficulty Level
31	11th	Classification of Elements and Periodicity In Properties	Ionic Radius	Easy
32	11th	Environmental Chemistry	Atmospheric Pollution	Easy
33	12th	Alcohols, Phenols and Ethers	Chemical Reaction of Phenols	Easy
34	12th	Principles of Qualitative Analysis	Analysis of Acidic Radicals	Easy
35	12th	Alcohols, Phenols and Ethers	Chemical Reaction of Phenols	Medium
36	12th	Coordination Compounds	Bonding In Coordination Compounds	Medium
37	12th	General Principles and Processes of Isolation of Elements	HydroMetallurgy	Medium
38	11th	Chemical Bonding and Molecular Structure	Hydrogen Bonding	Medium
39	12th	Chemistry In Everyday Life	Therapeutic Action of Different Classes of Drugs	Easy
40	12th	The P-Block Elements	Group 15 Elements	Medium
41	11th	Hydrocarbons	Alkenes	Medium
42	12th	Polymers	Rubber	Easy
43	12th	The P-Block Elements	Group 17 Elements	Medium
44	12th	Biomolecules	Disaccharides	Medium
45	11th	Equilibrium	Calculation of PH	Easy
46	11th	Hydrocarbons	Aromatacity	Easy
47	11th	Chemical Bonding and Molecular Structure	Hybridization	Medium
48	12th	Electrochemistry	Electrochemical Series	Easy
49	11th	The S-Block Elements	Group-2 Elements : Alkaline Earth Metals	Medium
50	11th	Classification of Elements and Periodicity In Properties	Electronic Configuration of Elements and The Periodic Table	Medium

51	11th	Organic Chemistry Some Basic Principles and Techniques	Quantitative Analysis	Medium
52	12th	Electrochemistry	Electrochemical Cell	Medium
53	11th	Structure of Atom	Quantum Mechanical Model of The Atom	Easy
54	12th	Solutions	Colligative Properties	Medium
55	12th	The P-Block Elements	Dinitrogen	Easy
56	11th	States of Matter	The Gas Laws	Easy
57	12th	Surface Chemistry	Adsorption	Medium
58	11th	Thermodynamics	Pressure-Volume Work	Medium
59	11th	Structure of Atom	Bohr's Model For Hydrogen Atom	Easy
60	12th	Haloalkanes and Haloarenes	Chemical Properties	Medium

Mathematics (Section 5 & 6)

Mathematics was easy to moderate difficulty. Mathematics had 9 easy questions, 7 medium questions and 1 difficult question. Following is the question distribution as per Class, Chapter, Topic & Difficulty -

Question No	Class	Chapter Name	Topic Name	Difficulty Level
61	12th	Inverse Trigonometric Functions	Inverse Trigonometric Functions	Easy
62	11th	Sequences and Series	Arithmetic -Geometric Series (Agp)	Easy
63	11th	Complex Number	Geometry of Complex Numbers	Medium
64	12th	Differentiation	Differentiation under integral	Medium
65	11th	Mathematical Reasoning		Easy
66	11th	Conic Section	Parabola	Easy
67	12th	Three Dimensional Geometry	Skew Lines	Easy
68	12th	Definite Integral		Difficult
69	11th	Sequences and Series	A.P	Easy
70	12th	Matrices	Properties of Adjoint	Medium
71	12th	Differential Equation	Linear Differential Equation	Easy
72	11th	Trigonometric Functions	Ratios	Medium
73	11th	Limits and Derivatives	Algebraic Limit	Medium
74	12th	Integrals	Definite Integral	Easy
75	12th	Limits and Derivatives	Derivatives	Medium

76	11th	Matrices	Matrix	Medium
77	11th	Statistics	Variance	Easy

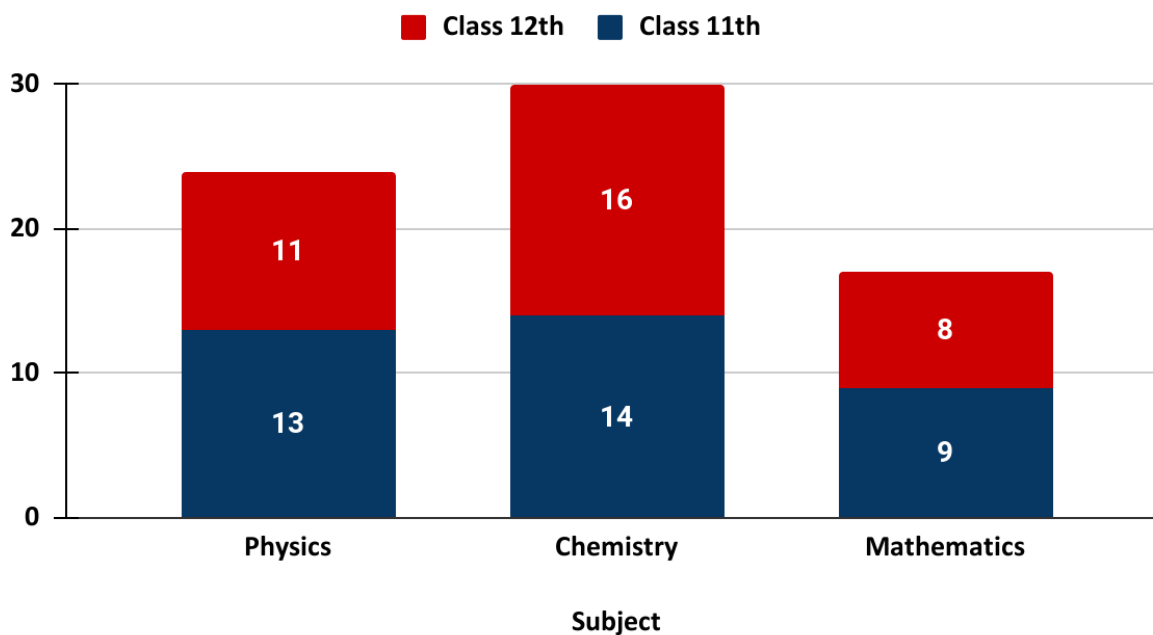
Note - As this is a memory-based analysis of the question paper, our experts could figure out 71 out of 90 questions from the total paper.

Class Wise Question Distribution

As per our expert faculties, the questions from Class 12th syllabus and Class 11th syllabus had an identical proportion in the paper. 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	11	44	43%	37%
Chemistry	14	56	16	64	47%	53%
Mathematics	9	36	8	32	30%	27%
Grand Total	36	144	35	140	40%	39%

Class Wise Question Distribution



Overall Difficulty Level Analysis

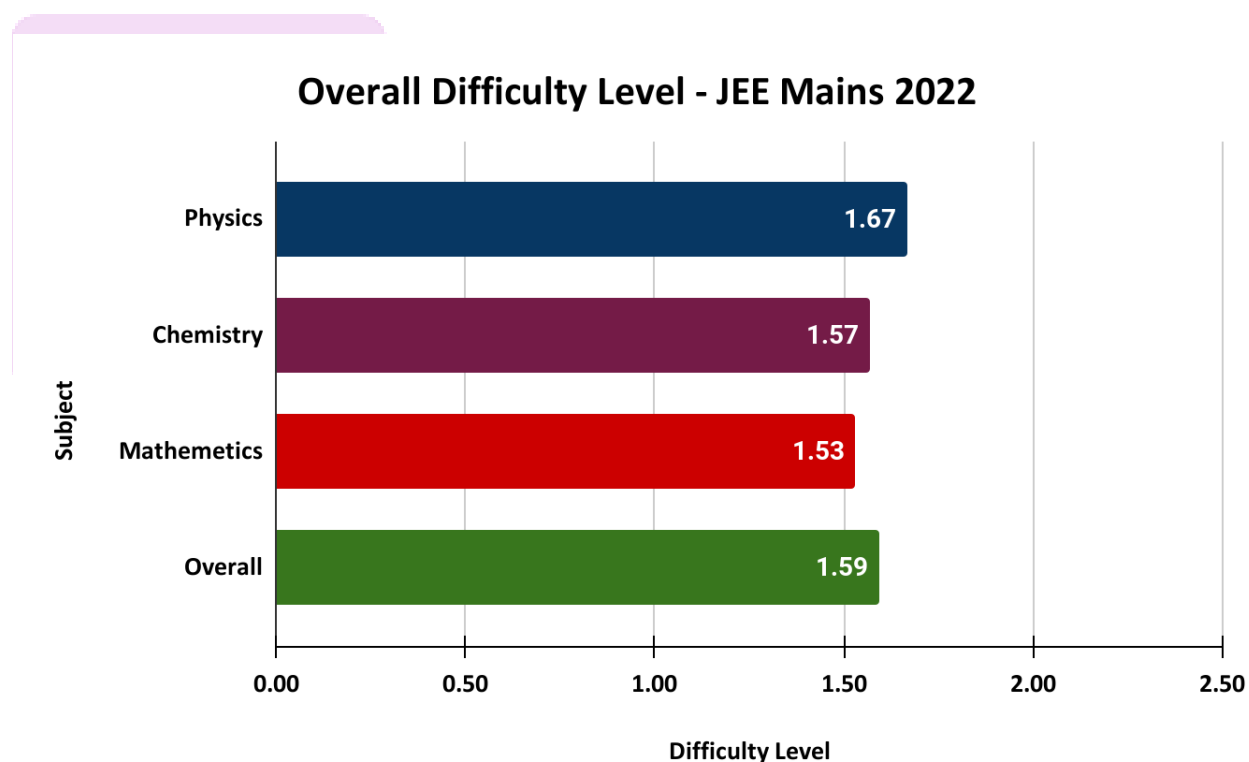
In this analysis, we have rated every question on a scale of 1 to 3. The ratings are done by our expert faculty. The individual ratings are then averaged to calculate the overall difficulty level.

Easy - 1

Medium - 2

Difficult - 3

Subject	Difficulty Level
Physics	1.67
Chemistry	1.57
Mathematics	1.53
Overall	1.59



As per our expert faculties, this year's June 27, JEE Main B.Tech Shift 2 paper was moderate in terms of difficulty.