

In-Depth Analysis - June 28 JEE Mains 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 (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

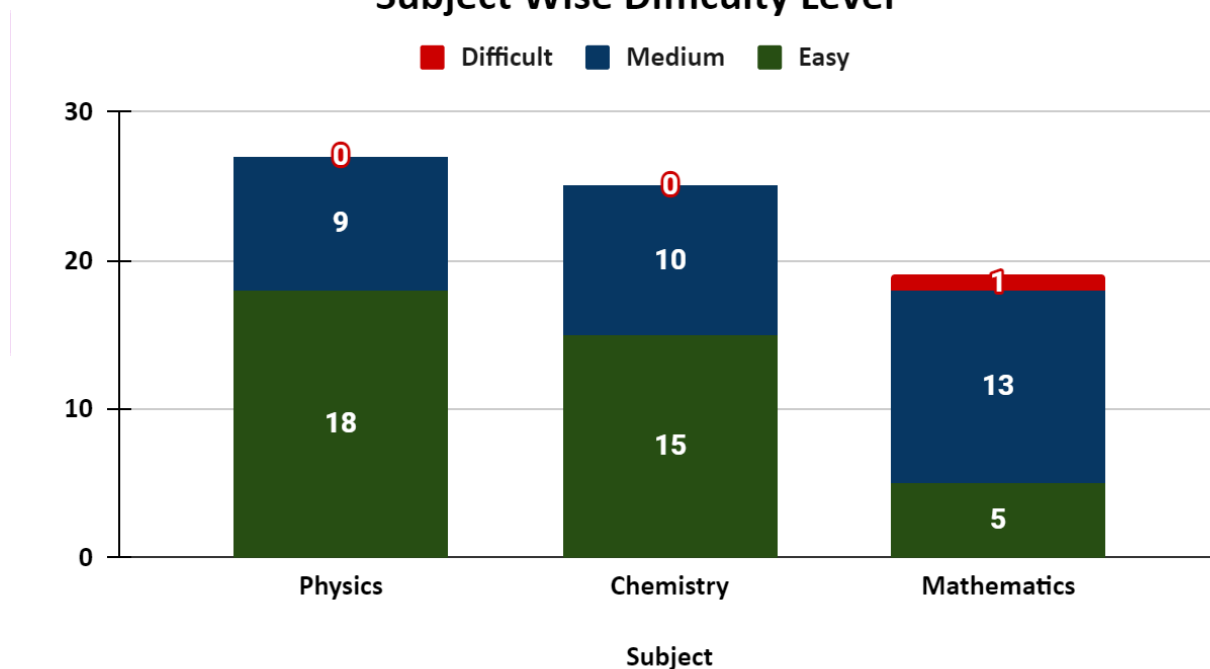
- Section A (1), A (3) & A (5) were MCQ (Multiple Choice Questions), each question had 4 marks, students will be awarded 4 marks for the correct answer and -1 mark will be awarded for the incorrect answer.
- Section B (2), B (4) & B (6) were single answer type questions, each question had 4 marks students 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. **27** questions in Physics, **25** questions in Chemistry and **19** 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	18	72	9	36	0	0	27	108
Chemistry	15	60	10	40	0	0	25	100
Mathematics	5	20	13	52	1	4	19	76
Grand Total	38	152	32	128	1	4	71	284

Subject Wise Difficulty Level



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

Physics (Section 1 & 2)

Physics was easy compared to Chemistry & Maths. Physics had 18 easy questions and 9 medium type questions. Following is the question distribution table as per Class, Chapter, Topic & Difficulty -

Question No	Class	Chapter Name	Topic Name	Difficulty Level
1	11th	Semiconductor Electronics : Materials, Devices and Simple Circuits	Digital Electronics and Logic Gates	Easy
2	12th	Current Electricity	Wheatstone Bridge	Easy
3	12th	Wave Optics	Resolving Power of Optical Instruments	Easy
4	12th	Electric Charges and Fields	Superposition	Medium
5	11th	Mechanical Properties of Fluids	Surface Tension	Medium
6	12th	Semiconductor Electronics : Materials, Devices and Simple Circuits	Junction Transistor	Easy
7	12th	Electrostatic Potential and Capacitance	Electrostatic Potential Energy	Easy
8	11th	Gravitation	Kepler's Laws of Planetary Motion (Motion of Planets Around Sun)	Easy
9	12th	Ray Optics and Optical Instruments	Prism	Medium
10	11th	Laws of Motion	Conservation of Momentum	Easy
11	11th	System of Particles and Rotational Motion	Moment of Inertia	Medium
12	12th	Dual Nature of Radiation and Matter	Photoelectric Effect	Easy
13	11th	Motion In A Plane	Motion In A Plane	Easy
14	12th	Dual Nature of Radiation and Matter	Wave Nature of Matter	Easy
15	12th	Moving Charges and Magnetism	Magnetic Field Due To Various Current Carrying Conductors	Easy
16	11th	Thermodynamics	Thermodynamic Processes	Medium
17	11th	Work, Energy and Power	Power	Medium
18	12th	Semiconductor Electronics : Materials, Devices and	Semiconductor Diode	Easy

		Simple Circuits		
19	11th	Kinetic Theory	Law of Equipartition of Energy	Easy
20	12th	Communication Systems	Signals	Easy
21	11th	Laws of Motion	Friction	Medium
22	12th	Current Electricity	Combination of Resistors – Series and Parallel	Easy
23	12th	Ray Optics and Optical Instruments	Refraction	Easy
24	11th	Waves	Beats	Medium
25	11th	Work, Energy and Power	The Work-Energy Theorem For A Variable Force	Easy
26	12th	Current Electricity	Meter Bridge	Medium
27	11th	System of Particles and Rotational Motion	Angular Momentum	Easy

Chemistry (Section 3 & 4)

Chemistry had moderate to difficult level of questions. Chemistry had 10 medium and 15 easy questions. Following is the question distribution table as per Class, Chapter, Topic & Difficulty -

Question No	Class	Chapter Name	Topic Name	Difficulty Level
31	12th	General Principles and Processes of Isolation of Elements	Extraction of Metals (General)	Easy
32	12th	Coordination Compounds	Synergation	Medium
33	12th	Polymers	Classification of Polymerisation Reaction	Medium
34	12th	Aldehydes, Ketones and Carboxylic Acids	cannizzaro reaction	Medium
35	11th	Environmental Chemistry	Soil Pollution	Easy
36	12th	Amines	Diazonium Salts	Medium
37	12th	The P-Block Elements	Preparation of Nitrogen	Easy
38	11th	Hydrocarbons	Electrophilic Substitution Reactions	Easy
39	12th	Organic Chemistry Some Basic Principles and Techniques	Aromaticity	Medium

40	12th	Amines	Diazonium Salts	Easy
41	12th	Coordination Compounds	Hyberdization	Medium
42	12th	Surface Chemistry	Colloids	Easy
43	12th	The Solid State	Defects In Solids	Medium
44	11th	Organic Chemistry Some Basic Principles and Techniques	Quantitative Analysis	Medium
45	12th	The P-Block Elements	Group 15 Elements	Easy
46	12th	The P-Block Elements	Group 16 Elements	Easy
47	12th	Biomolecules	Proteins	Easy
44	11th	Organic Chemistry Some Basic Principles and Techniques	Quantitative Analysis	Easy
49	12th	General Principles and Processes of Isolation of Elements	Ellingham Diagrams	Easy
50	11th	Chemical Bonding and Molecular Structure	Hybridization	Easy
51	11th	Thermodynamics	Pressure-Volume Work	Easy
52	12th	Solutions	Ideal and Non-Ideal Solutions	Easy
53	12th	Electrochemistry	Quantitative Aspects of Electrolysis and Faradays Laws	Medium
54	12th	Chemical Kinetics and Nuclear Chemistry	Numericals On Some Important First Order Reactions	Medium
55	11th	Structure of Atom	Quantum Mechanical Model of The Atom	Easy

Mathematics (Section 5 & 6)

Mathematics was of moderate difficulty. Mathematics had 5 easy questions, 13 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	Determinants	Adjoint and Inverse of A Matrix	Easy
62	12th	Application of Derivatives		Easy
63	12th	Application of Integrals	Area Under Curves	Easy
64	11th	Trigonometric Functions	Heights and Distances	Easy

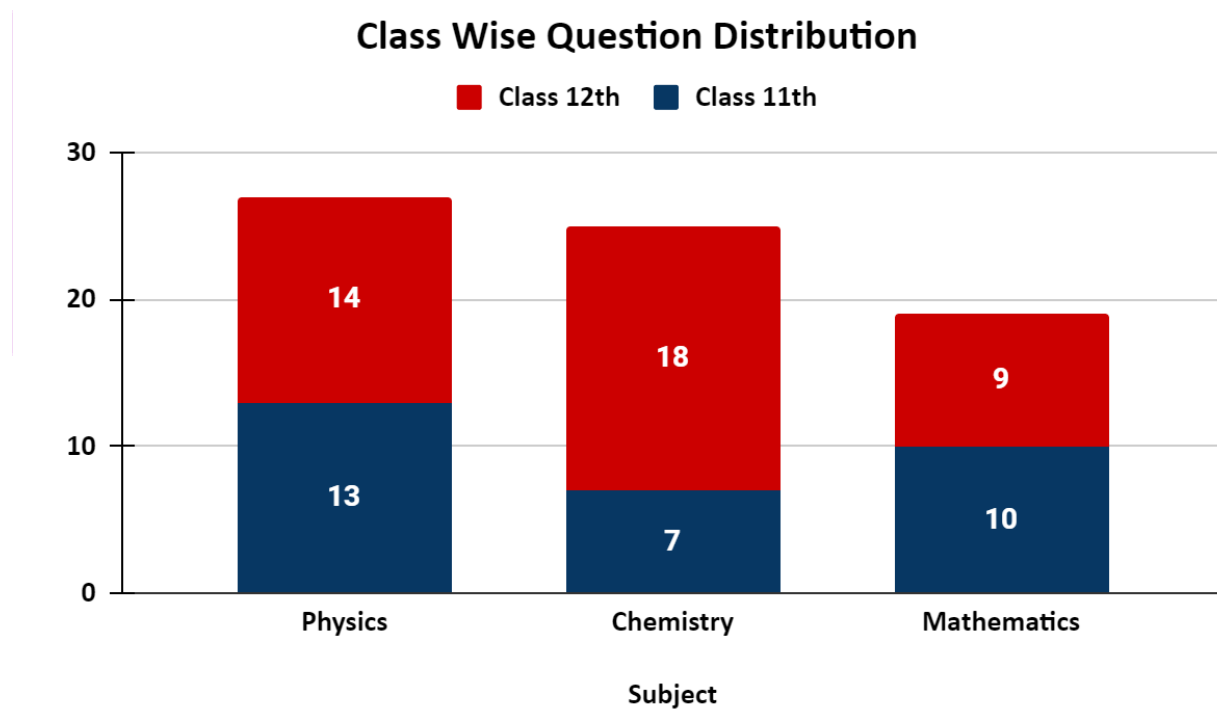
65	11th	Conic Sections	Hyperbola	Medium
66	11th	Binomial Theorem		Medium
67	12th	Integrals	Definite Integral	Difficult
68	11th	Permutations and Combinations	Divisors	Medium
69	12th	Relations and Functions	Types of Function	Medium
70	11th	Sequences and Series	Geometric Progression (G.P.)	Medium
71	11th	Mathematical Reasoning		Easy
72	11th	Permutations and Combinations	Permutations	Medium
73	11th	Sequences and Series	General Terms	Medium
74	11th	Statistics		Medium
75	12th	Differential Equations	LDE	Medium
76	12th	Differential Equations	General Solution	Medium
77	12th	Relations and Functions	Relations	Medium
78	11th	Conic Sections	Circle	Medium
79	12th	Introduction To Three Dimensional Geometry	Planes	Medium

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 dominated 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	14	56	43%	47%
Chemistry	7	28	18	72	23%	60%
Mathematics	10	40	9	36	33%	30%
Grand Total	30	120	41	164	33%	46%



Overall Difficulty Level Analysis

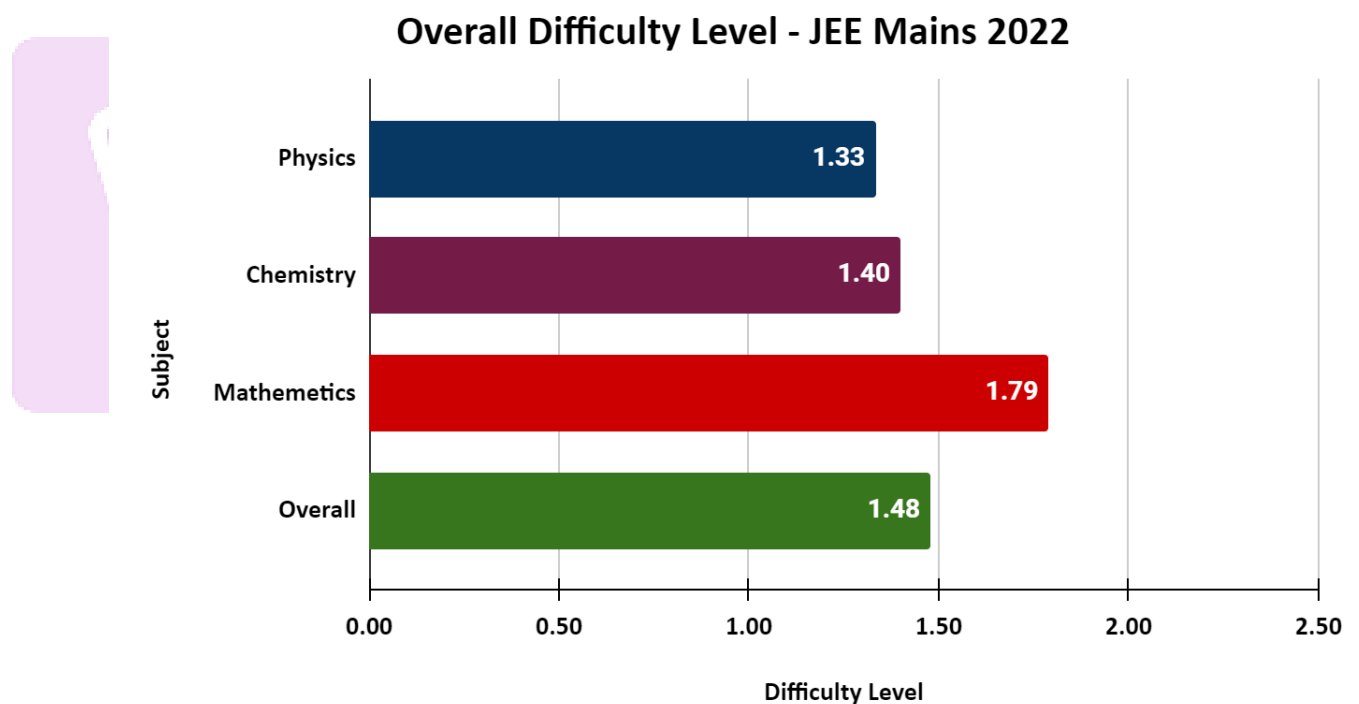
In this analysis, we have rated every question on a scale of 1 to 3. The ratings are done by our expert faculty. The individual ratings are then averaged to calculate the overall difficulty level.

Easy - 1

Medium - 2

Difficult - 3

Subject	Difficulty Level
Physics	1.33
Chemistry	1.40
Mathematics	1.79
Overall	1.48



As per our expert faculties, this year's June 27, JEE Main B.Tech Shift 1 paper was quite easy except Mathematics Section.