

In-Depth Analysis - June 28 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

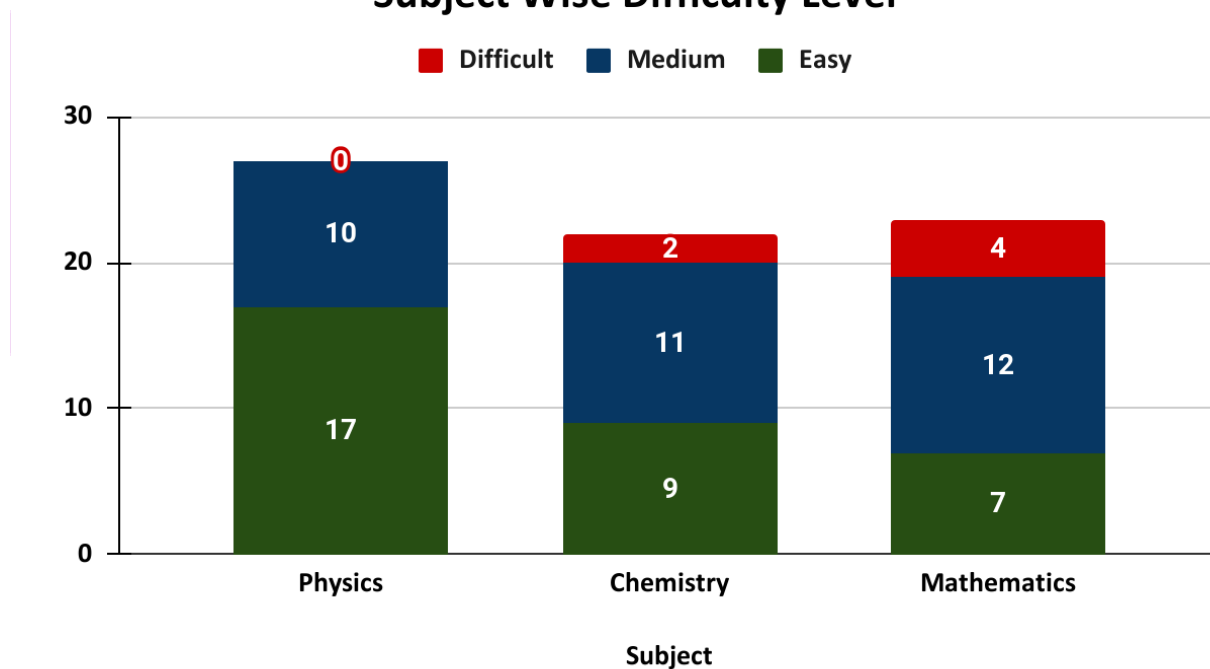
- Section A (1), A (3) & A (5) were MCQ (Multiple Choice Questions), each question had 4 marks, students will be awarded 4 marks for the correct answer and -1 mark will be awarded for the incorrect answer.
- Section B (2), B (4) & B (6) were single answer type questions, each question had 4 marks students 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 **72** questions out of 90 questions i.e. **27** questions in Physics, **22** questions in Chemistry and **23** questions 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	10	40	0	0	27	108
Chemistry	9	36	11	44	2	8	22	88
Mathematics	7	28	12	48	4	16	23	92
Grand Total	33	132	33	132	6	24	72	288

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 & few were difficult.
- Most of the questions from Mathematics were easy to moderate level & quite few were difficult.

Physics (Section 1 & 2)

Physics was easier than Chemistry & Maths. Physics had 17 easy questions and 10 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	Motion In A Plane	Average Speed	Easy
2	11th	System of Particles and Rotational Motion	Moment of Force	Medium
3	12th	Electric Charges and Fields	Electric Field	Easy
4	11th	Work, Energy and Power	The Conservation of Mechanical Energy	Easy
5	12th	Electrostatic Potential and Capacitance	Sharing of Charge and Common Potential	Easy
6	11th	Work, Energy and Power	The Conservation of Mechanical Energy	Medium
7	12th	Current Electricity	Resistance	Easy
8	11th	System of Particles and Rotational Motion	Connected Motion	Medium
9	12th	Dual Nature of Radiation and Matter	Wave Nature of Matter	Medium
10	11th	Oscillations	Some Systems Executing Simple Harmonic Motion	Easy
11	11th	Waves	Standing Or Stationary Waves	Medium
12	11th	Mechanical Properties of Fluids	Bernoullis Principle	Medium
13	12th	Wave Optics	YoungS Double Slit Experiment (Alternate Method)	Easy
14	12th	Nuclei	Law of Radioactive Decay	Easy
15	11th	Mechanical Properties of Fluids	Viscosity	Easy
16	12th	Communication Systems	Amplitude Modulation	Easy
17	11th	Kinetic Theory	Behaviour of Gases	Easy
18	12th	Electrostatic Potential and Capacitance	Sharing of Charge and Common Potential	Easy
19	12th	Current Electricity	Combination of Resistors – Series and Parallel	Medium
20	11th	Gravitation	Universal Law of Gravitation	Easy

21	12th	Moving Charges and Magnetism	Magnetic Force	Easy
22	12th	Nuclei	Law of Radioactive Decay	Easy
23	12th	Electromagnetic wave	Electromagnetic wave	Easy
24	11th	Laws of motion	Circular motion	Easy
25	12th	Semiconductor	Diode	Medium
26	12th	Alternating Current	Ac Through An R-C Circuit	Medium
27	12th	Electromagnetic Induction	Field Induction	Medium

Chemistry (Section 3 & 4)

Chemistry had moderate to the difficult level of questions. Chemistry had 11 medium and 9 easy questions & 2 were difficult. Following is the question distribution table as per Class, Chapter, Topic & Difficulty -

Question No	Class	Chapter Name	Topic Name	Difficulty Level
31	12th	The P-Block Elements	Nitrogen Family	Medium
32	11th	Environmental Chemistry	Atmospheric Pollution	Easy
33	11th	Classification of Elements and Periodicity In Properties	Nature of Oxide	Easy
34	11th	Structure of Atom	Quantum Number	Medium
35	11th	Hydrogen	Isotopes of hydrogen	Easy
36	12th	General Principles and Processes of Isolation of Elements	Metallurgy of copper	Easy
37	12th	Organic Chemistry Some Basic Principles and Techniques	Nomenclature of Organic Compounds	Easy
38	12th	The P-Block Elements	Compounds of Sulphur	Medium
39	12th	Aldehydes, Ketones and Carboxylic Acids	Chemical Reactions of Carboxylic Acids	Medium
40	11th	Some Basic Concepts of Chemistry	Empirical Formula	Medium
41	11th	Hydrocarbons	Aromatic Hydrocarbon	Medium
42	12th	Haloalkanes and Haloarenes	Chemical Properties	Difficult
43	12th	Biomolecules	Disaccharides	Medium
44	11th	Environmental Chemistry	Atmospheric Pollution	Easy

45	11th	Equilibrium	Buffer Solution	Difficult
46	12th	Surface Chemistry	Colloids	Easy
47	11th	Chemical Bonding and Molecular Structure	The Valence Shell Electron Pair Repulsion (Vsepr) Theory	Medium
48	12th	Chemistry In Everyday Life	Therapeutic Action of Different Classes of Drugs	Easy
49	12th	Chemical Kinetics and Nuclear Chemistry	Nuclear Chemistry	Medium
50	12th	Haloalkanes and Haloarenes	Halogenation	Easy
51	12th	Coordination Compounds	Magnetic Properties	Medium
52	12th	Electrochemistry	Equilibrium Constant and Cell Potential	Medium

Mathematics (Section 5 & 6)

Mathematics was of moderate difficulty. Mathematics had 7 easy questions, 12 medium questions and 4 difficult questions. 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	Tan series	Medium
62	11th	Binomial Theorem	Expansion	Medium
63	12th	Application of Integrals	Area Under Curves	Easy
64	11th	Conic Sections	Parabola	Easy
65	11th	Trigonometric Functions	Angle	Easy
66	11th	Quadratic Equations		Medium
67	12th	Introduction To Three Dimensional Geometry	Planes	Medium
68	11th	Sequences and Series	Arithmetic Progression (A.P.)	Medium
69	11th	Introduction To Three Dimensional Geometry	Planes	Medium
70	12th	Integrals	Definite Integral	Medium
71	12th	Differential Equations	General and Particular Solution	Medium
72	11th	Conic Sections	Circle	Medium
73	11th	Conic Sections-II	Hyperbola	Easy

74	12th	Differential Equations	Linear Differential Equations	Easy
75	11th	Complex Number	Algebra of Complex Numbers	Easy
76	12th	Limits and Derivatives	Limits	Medium
77	12th	Probability	Definition of Probability	Difficult
78	11th	Sequences and Series	Geometric Progression (G.P.)	Difficult
79	12th	Limits and Derivatives	Limits	Medium
80	11th	Relations and Functions	Relations	Medium
81	11th	Permutations and Combinations	Multinomial Theorem	Difficult
82	12th	Vector Algebra	Dot Product	Easy
83	11th	Statistics	Variance and Standard Deviation	Difficult

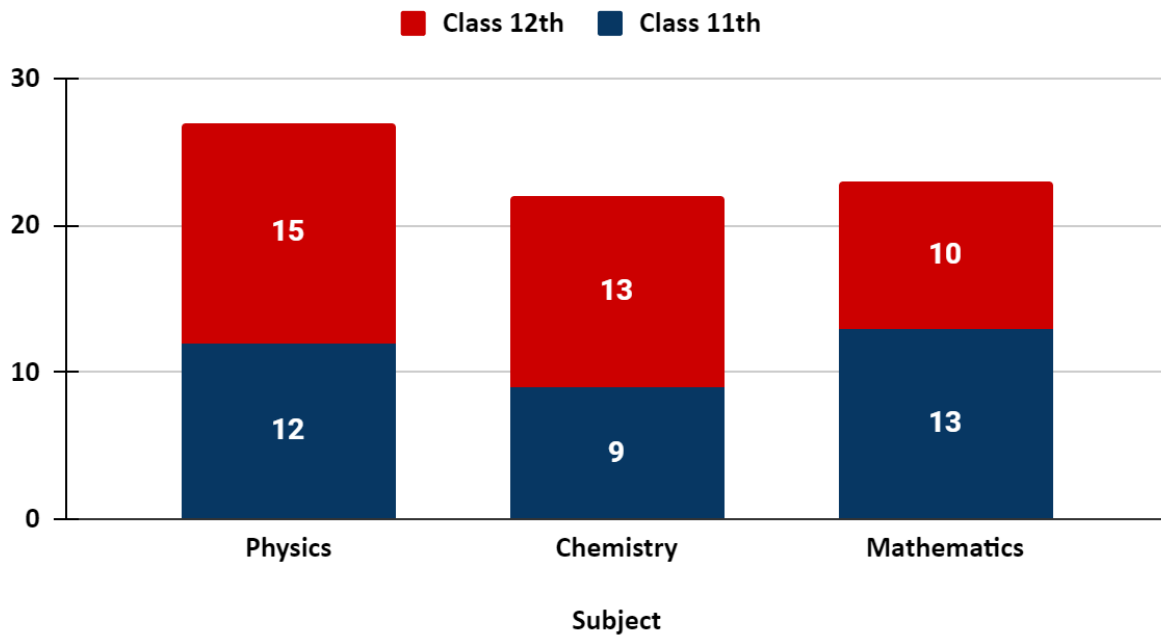
Note - As this is a memory-based analysis of the question paper, our experts could figure out **72 out of 90** questions from the total paper.

Class Wise Question Distribution

As per our expert faculties, the questions from the Class 12th syllabus & the Class 11th syllabus had an approximately identical proportion. 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	15	60	40%	50%
Chemistry	9	36	13	52	30%	43%
Mathematics	13	52	10	40	43%	33%
Grand Total	34	136	38	152	38%	42%

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.

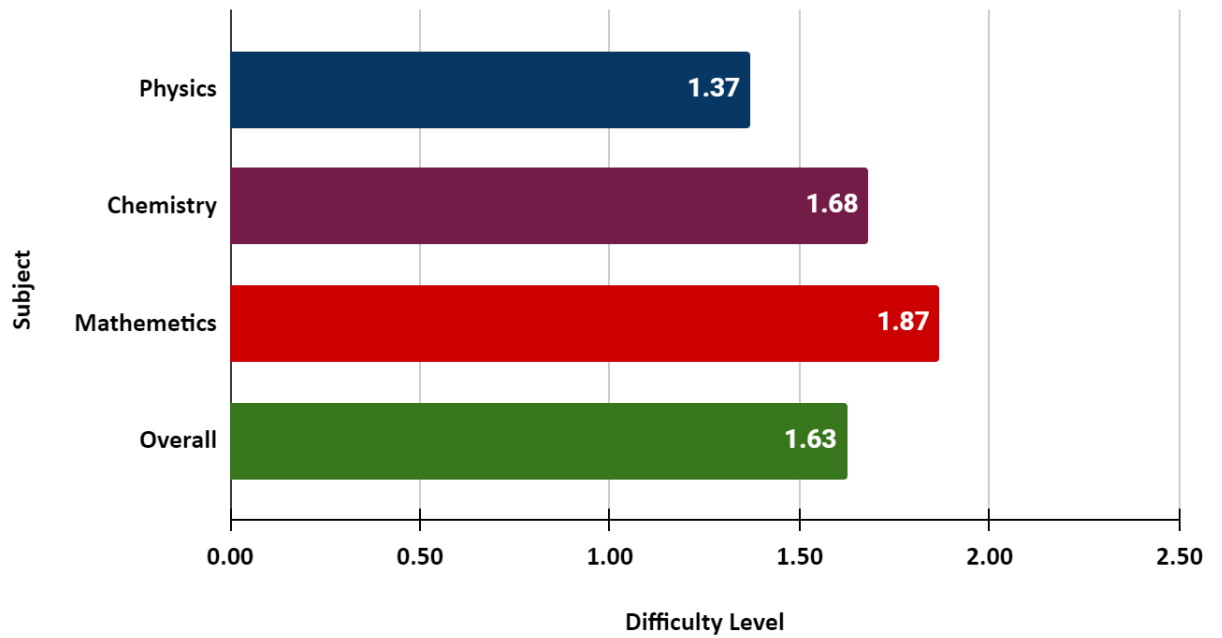
Easy - 1

Medium - 2

Difficult - 3

Subject	Difficulty Level
Physics	1.37
Chemistry	1.68
Mathematics	1.87
Overall	1.63

Overall Difficulty Level - JEE Mains 2022



As per our expert faculties, this year's June 28, JEE Main B.Tech Shift 2 paper was quite easy except for the Mathematics Section which was moderately difficult & time consuming.