

A Detailed Analysis of JEE Main (Session 1) 2023
01st February, 2023 Shift 1 (9 AM - 12 Noon)
(Memory Based)

Disclaimer: Although students had to answer only 75 questions in exam, analysis below pertains to ≤ 90 questions

JEE Main 2023 (B.E./B.Tech) exam is being conducted entirely in the computer-based mode by the National Testing Agency (NTA). JEE Main Exam 2023 (B.E./B.Tech.) will be held on January 24, 25, 29, 30, 31 and February 1, 2023. The Paper will be conducted in two shifts i.e, First Shift from 9:00am to 12:00 pm & Second Shift from 3:00pm to 6:00 pm daily.

JEE Main Exam Pattern 2023: Paper 1 (B.E/B.Tech)

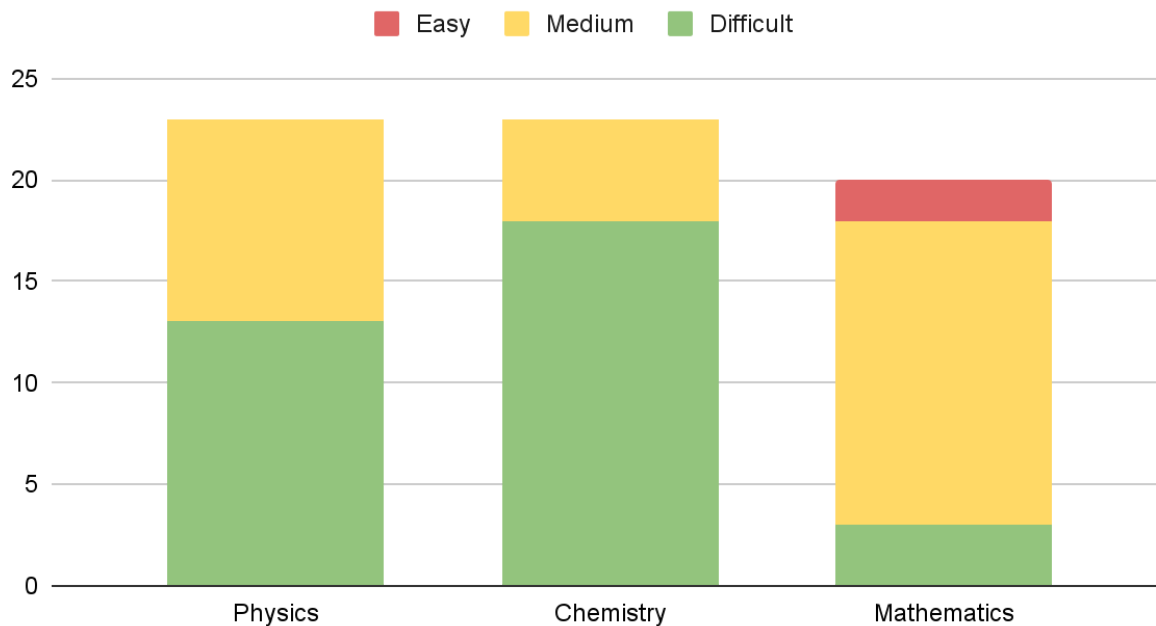
| Particulars | Details |
|----------------------------------|--|
| Exam Mode | Computer-based examination |
| Test Duration | Three hours |
| No. of Subjects | (i)Physics (ii)Chemistry (iii)Mathematics |
| Type of questions | MCQs: 4 options with only 1 correct option Numerical Value Questions: Questions whose answers are to be filled in as a numerical value |
| JEE Mains Total No. of questions | Mathematics: 25 (20+10) 20 Questions were compulsory MCQ Based & 10 Questions were answers as a numerical value. Out of these 10 questions, 5 questions are compulsory. Physics: 25 (20+10) 20 Questions were compulsory MCQ Based & 10 Questions were answers as a numerical value. Out of these 10 questions, 5 questions are compulsory. Chemistry: 25 (20+10) 20 Questions were compulsory MCQ Based & 10 Questions were answers as a numerical value. Out of these 10 questions, 5 questions are compulsory. Total: 75 Questions (25 questions in each subject) |
| JEE Mains Total Marks | 300 Marks |
| JEE Main Marking Scheme | MCQs: Four marks will be awarded for each correct answer and there will be a negative marking of one mark on each wrong answer. Questions with numerical value answers: Candidates will be given four marks for each correct answer and there will be a negative marking of 1 mark for each wrong answer. |

Subject Wise Difficulty Level Analysis

Although it was a memory-based question analysis, our experts could figure out **66 questions out of 90 questions** i.e, **23** questions in Physics, **23** 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 | 13 | 52 | 10 | 40 | 0 | 0 | 23 | 92 |
| Chemistry | 18 | 72 | 5 | 20 | 0 | 0 | 23 | 92 |
| Mathematics | 3 | 12 | 15 | 60 | 2 | 8 | 20 | 80 |
| Grand Total | 34 | 136 | 30 | 120 | 2 | 8 | 66 | 264 |

Subject Wise Difficulty Level Analysis



Question Wise Distribution Analysis

Following is the question distribution table as per Class,Chapter, Topic & Difficulty -

Physics

| Question No | Class | Section | Subject | Chapter Name | Topic Name | Difficulty Level |
|-------------|-------|---------|---------|---|--|------------------|
| 1 | 12th | A | Physics | Current Electricity | Wheatstone Bridge | Easy |
| 2 | 12th | A | Physics | Ray Optics & Optical Instruments | Spherical Mirror | Medium |
| 3 | 11th | A | Physics | System Of Particles & Rotational Motion | Rolling Motion | Medium |
| 4 | 11th | A | Physics | Motion In A Plane | Horizontal Projection | Easy |
| 5 | 11th | A | Physics | Thermodynamics | Work Done In Adiabatic Process | Easy |
| 6 | 11th | A | Physics | Gravitation | Acceleration Due To Gravity | Medium |
| 7 | 12th | A | Physics | Moving Charges & Magnetism | Applications Of Biot Savart's Law | Easy |
| 8 | 11th | A | Physics | Laws Of Motion | Friction | Medium |
| 9 | 12th | A | Physics | Communication System | Frequency Modulation | Easy |
| 10 | 11th | A | Physics | Units & Measurements | Dimensional Analysis | Easy |
| 11 | 11th | A | Physics | System Of Particles & Rotational Motion | Rolling On Inclined Plane | Easy |
| 12 | 11th | A | Physics | Motion In A Straight Line | Motion Under Gravity | Easy |
| 13 | 11th | A | Physics | Mechanical Properties Of Fluids | Surface Tension | Medium |
| 14 | 12th | A | Physics | Moving Charges & Magnetism | Motion Of Charge In Combined Electric & Magnetic Field | Medium |
| 15 | 11th | A | Physics | Waves | Speed Of Transverse Wave on A String | Easy |
| 16 | 12th | A | Physics | Electric Charges & Fields | Application Of Biot Savart's Law | Easy |
| 17 | 12th | A | Physics | Solids & Semiconductor Devices | Properties Of Semiconductors | Medium |
| 18 | 12th | B | Physics | Ray Optics & Optical Instruments | Spherical Mirror | Medium |

| | | | | | | |
|----|------|---|---------|------------------------------------|--------------------------|--------|
| 19 | 12th | B | Physics | Alternating Current | Resonance In LCR Circuit | Medium |
| 20 | 12th | B | Physics | Dual Nature Of Matter & Radiations | de Broglie Hypothesis | Easy |
| 21 | 11th | B | Physics | Gravitation | Escape Speed | Easy |
| 22 | 12th | B | Physics | Wave Optics | Law Of Malus | Medium |
| 23 | 12th | B | Physics | Electric Charges & Fields | Electric Fields | Easy |

Chemistry

| | | | | | | |
|----|------|---|-----------|---|---|--------|
| 24 | 12th | A | Chemistry | Alcohol, Phenols and ethers | Rate of dehydration | Easy |
| 25 | 12th | A | Chemistry | Coordination compound | Crystal field Theory | Easy |
| 26 | 11th | A | Chemistry | States of matter | Kinetic Theory of Gases | Easy |
| 27 | 11th | A | Chemistry | Hydrogen | Hydrogen economy | Easy |
| 28 | 12th | A | Chemistry | Biomolecules | Structure of glucose and fructose | Easy |
| 29 | 11th | A | Chemistry | Equilibrium | Equilibrium constant | Medium |
| 30 | 12th | A | Chemistry | Chemistry in Everyday life | Drugs | Easy |
| 31 | 11th | A | Chemistry | Hydrocarbons | Alkenes | Easy |
| 32 | 11th | A | Chemistry | S block elements | Important compounds of group-1 elements | Easy |
| 33 | 11th | A | Chemistry | Environmental Chemistry | Photochemical smog | Easy |
| 34 | 12th | A | Chemistry | d and f block elements | Compounds of iron | Easy |
| 35 | 12th | A | Chemistry | Biomolecules + Amines + Aldehyde, Ketones and carboxylic acid | Miscellaneous | Medium |
| 36 | 11th | | Chemistry | Atomic structure | Discovery of subatomic particles | Easy |
| 37 | 11th | A | Chemistry | s block elements | Beryllium | Easy |
| 38 | 12th | A | Chemistry | Haloalkanes and Haloarenes | Chemical reactions | Easy |
| 39 | 12th | A | Chemistry | Electrochemistry | Nernst equation | Medium |
| 40 | 12th | A | Chemistry | P block elements-II | Group-17 : Oxides of halogen | Easy |
| 41 | 11th | B | Chemistry | d and f block elements | Chemical properties | Easy |

| | | | | | | |
|----|------|---|-----------|---------------------------------|----------------------------------|--------|
| 42 | 12th | B | Chemistry | P block elements-II | Group -17: Oxo-acids of halogens | Easy |
| 43 | 12th | B | Chemistry | Chemical Kinetics | First order kinetics | Medium |
| 44 | 11th | B | Chemistry | Atomic structure | Bohr model | Easy |
| 45 | 11th | B | Chemistry | Some basic concept of chemistry | Molality | Easy |
| 46 | 12th | B | Chemistry | Solution | Colligative properties | Medium |

Mathematics

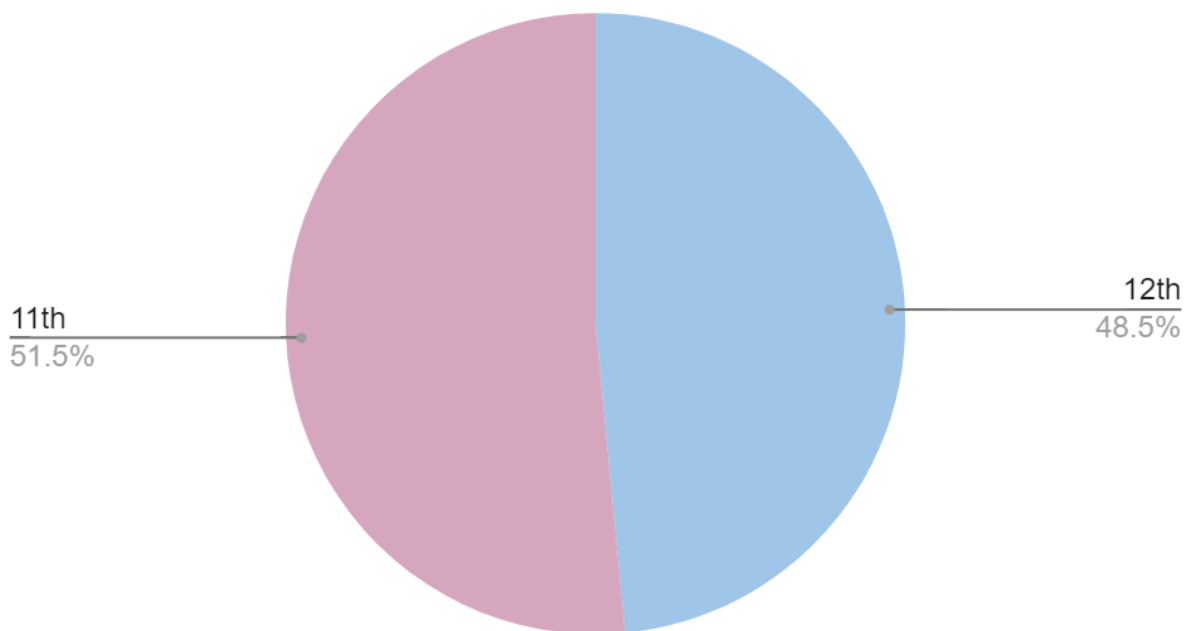
| | | | | | | |
|----|------|---|-------------|----------------------------------|--------------------------------------|-----------|
| 47 | 12th | A | Mathematics | Integration | Integration as a limit of sum | Easy |
| 48 | 12th | A | Mathematics | Differential equation | Linear differential equation | Medium |
| 49 | 11th | A | Mathematics | Sequence and series | Vn method | Medium |
| 50 | 11th | A | Mathematics | Permutations and combination | Permutation | Easy |
| 51 | 12th | A | Mathematics | Differential equation | Miscellaneous | Difficult |
| 52 | 11th | A | Mathematics | Quadratic equation | Exponential equation | Medium |
| 53 | 11th | A | Mathematics | Statistics | Variance | Medium |
| 54 | 11th | A | Mathematics | Binomial Theorem | Series related binomial coefficients | Medium |
| 55 | 12th | A | Mathematics | Relation and function | Types of Relation | Medium |
| 56 | 11th | A | Mathematics | Mathematical Reasoning | Negation of statement | Easy |
| 57 | 12th | A | Mathematics | Inverse Trigonometric function | Equation | Medium |
| 58 | 11th | A | Mathematics | Properties of Triangle | In radius, area | Medium |
| 59 | 12th | B | Mathematics | Application of Integral | Area | Medium |
| 60 | 11th | B | Mathematics | Binomial Theorem | Remainder | Medium |
| 61 | 11th | B | Mathematics | Sequence series | Arithmetic progression | Medium |
| 62 | 11th | B | Mathematics | Complex numbers | Circle geometry | Medium |
| 63 | 12th | B | Mathematics | Continuity and Differentiability | Differentiation | Medium |
| 64 | 12th | B | Mathematics | Determinant | System of equation | Medium |
| 65 | 11th | B | Mathematics | Circle | Normal to circle | Difficult |
| 66 | 11th | B | Mathematics | Permutations and combination | Principle of Inclusion and exclusion | Medium |

Class Wise Distribution Level Analysis

As per our expert faculties the questions from **Class 11th syllabus dominated Class 12th syllabus**
Below is the Class wise question distribution table -

| Subject | 11th | | 12th | |
|--------------------|------------------|-------------|------------------|-------------|
| | No. of Questions | Total Marks | No. of Questions | Total Marks |
| Physics | 11 | 44 | 12 | 48 |
| Chemistry | 11 | 44 | 12 | 48 |
| Mathematics | 12 | 48 | 8 | 32 |
| Grand Total | 34 | 136 | 32 | 128 |

Class Wise Distribution Analysis



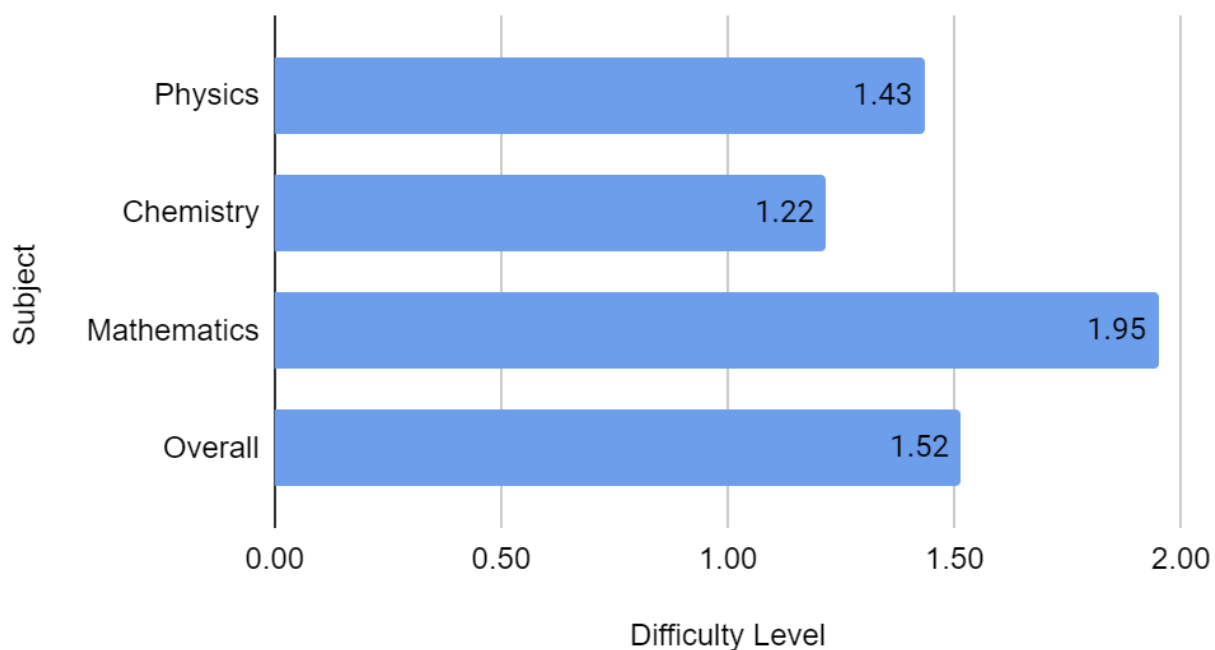
Overall Difficulty Level Analysis

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 | 1.43 |
| Chemistry | 1.22 |
| Mathematics | 1.95 |
| Overall | 1.52 |

Overall Difficulty Level JEE Mains (Session 1) 2023



Conclusion

The Overall Difficulty rating for **01st February JEE Mains Session 1 (Shift 1) 2023** was **1.52** which was considered as **moderate to difficult**. Overall Mathematics was the most difficult subject to attempt. The order of difficulty in different subjects as assessed by a large section of aspirants is Mathematics > Physics > Chemistry.