

A Detailed Analysis of JEE Main (Session 1) 2023
30th January, 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. |

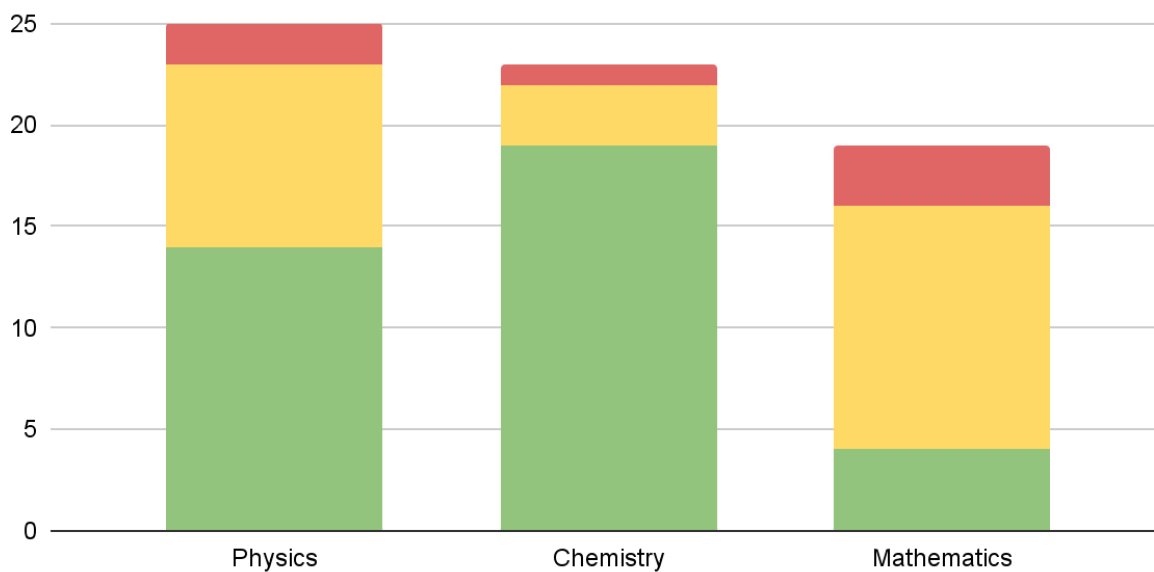
Subject Wise Difficulty Level Analysis

Although it was a memory-based question analysis, our experts could figure out **67 questions out of 90 questions** i.e, **25** questions in Physics, **23** 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 | 14 | 56 | 9 | 36 | 2 | 8 | 25 | 100 |
| Chemistry | 19 | 76 | 3 | 12 | 1 | 4 | 23 | 92 |
| Mathematics | 4 | 16 | 12 | 48 | 3 | 12 | 19 | 76 |
| Grand Total | 37 | 148 | 24 | 96 | 6 | 24 | 67 | 268 |



■ Difficult ■ Medium ■ Easy



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 | 11th | A | Physics | Work Energy & Power | Elastic Collosion | Easy |
| 2 | 11th | A | Physics | Mechanical Properties Of Solids | Relation between Modulus of Elasticities | Medium |
| 3 | 12th | A | Physics | Electrostatic Potential & Capacitance | Electrostatics Of Conductors | Easy |
| 4 | 11th | A | Physics | Motion In A Straight Line | Velocity Time Graph | Easy |
| 5 | 11th | A | Physics | Thermodynamics | Thremodynamic Process | Medium |
| 6 | 11th | A | Physics | Thermal Properties Of Matter | Conduction Of Heat | Difficult |
| 7 | 11th | A | Physics | Laws Of Motion | Newton's Second Law | Easy |
| 8 | 11th | A | Physics | Motion In A Straight Line | Average Speed | Easy |
| 9 | 11th | A | Physics | Laws Of Motion | Conservation Of Momentum | Medium |
| 10 | 12th | A | Physics | Alternating Current | Power Factor | Medium |
| 11 | 12th | A | Physics | Electromagnetic Waves | Momentum Transfer by EM Waves | Easy |
| 12 | 12th | A | Physics | Atoms | Bohr's Theory | Easy |
| 13 | 11th | A | Physics | Units & Measurements | Units | Easy |
| 14 | 12th | A | Physics | Moving Charges & Magnetism | Magnetic Dipole Moment | Easy |
| 15 | 11th | A | Physics | Thermodynamics | Thremodynamic Process | Medium |
| 16 | 12th | A | Physics | Solids & Semiconductor Devices | Logic Gates | Easy |
| 17 | 12th | A | Physics | Wave Optics | Young's Double Slit Experiment | Medium |

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|----|------|---|---------|----------------------------------|---|-----------|
| 18 | 11th | A | Physics | Mechanical Properties Of Fluids | Ascent Formula | Easy |
| 19 | 12th | A | Physics | Communication System | Amplitude Modulation | Easy |
| 20 | 12th | B | Physics | Electromagnetic Induction | LR Circuit | Easy |
| 21 | 11th | B | Physics | Oscillations | Time Period Of SHM | Medium |
| 22 | 12th | B | Physics | Moving Charges & Magnetism | Force on a current Carrying Conductor in Magnetic Field | Medium |
| 23 | 11th | B | Physics | Kinetic Theory Of Gases | Change In Internal Energy | Easy |
| 24 | 12th | B | Physics | Ray Optics & Optical Instruments | Focal Length Of Concave Mirror | Difficult |
| 25 | 12th | B | Physics | Current Electricity | Electrical Circuits | Medium |

Chemistry

| | | | | | | |
|----|------|---|-----------|---------------------------------|--|--------|
| 26 | 12th | A | Chemistry | Polymers | Caprolectum | Easy |
| 27 | 11th | A | Chemistry | Some basic concept of Chemistry | Molarity | Easy |
| 28 | 12th | A | Chemistry | d and f block elements | Potassium dichromate | Easy |
| 29 | 11th | A | Chemistry | Chemical bonding | VSEPR Theory | Easy |
| 30 | 11th | A | Chemistry | s- block elements | Solubility in water | Easy |
| 31 | 12th | A | Chemistry | P block elements | Group -16 | Easy |
| 32 | 12th | A | Chemistry | Coordination Compounds | Applications of Complex compounds | Easy |
| 33 | 11th | A | Chemistry | Atomic Structure | Bohr Model | Easy |
| 34 | 11th | A | Chemistry | Periodic classification | Identification of groups, blocks and periods | Easy |
| 35 | 11th | A | Chemistry | Environmental Chemistry | Pollutants | Easy |
| 36 | 12th | A | Chemistry | Haloalkanes and haloarenes | Name reactions | Easy |
| 37 | 11th | A | Chemistry | Thermodynamics | Internal energy | Easy |
| 38 | 12th | A | Chemistry | Coordination Compounds | Spectrochemical series | Easy |
| 39 | 11th | A | Chemistry | General Organic Chemistry | Acidic strength | Medium |
| 40 | 12th | A | Chemistry | Chemistry in everyday | Antacids | Easy |

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|----|------|---|-----------|------------------------|---|-----------|
| | | | | life | | |
| 41 | 12th | A | Chemistry | Metallurgy | Copper extraction | Easy |
| 42 | 12th | A | Chemistry | Biomolecules | Selliwanoff test | Difficult |
| 43 | 11th | A | Chemistry | Hydrocarbons | Oxidation of alkanes | Easy |
| 44 | 12th | B | Chemistry | Electrochemistry | Nernst equation | Medium |
| 45 | 12th | B | Chemistry | d and f block elements | Chemical properties of Potassium permanganate | Easy |
| 46 | 11th | B | Chemistry | Ionic equilibrium | pH | Medium |
| 47 | 12th | B | Chemistry | Solutions | Colligative properties | Easy |
| 48 | 12th | B | Chemistry | Chemical Kinetics | First order reaction | Easy |

Mathematics

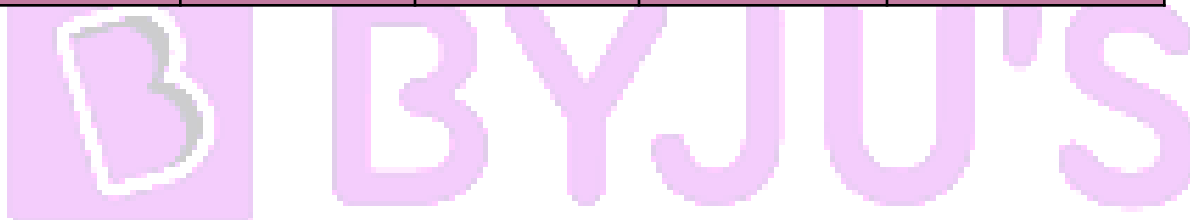
| | | | | | | |
|----|------|---|-------------|-------------------------------|---------------------------------------|-----------|
| 49 | 11th | A | Mathematics | Binomial Theorem | Binomial Sequences | Easy |
| 50 | 11th | A | Mathematics | Trigonometric function | Trigonometric ratiom of allied angles | Easy |
| 51 | 12th | A | Mathematics | Relation and function | types of relations | Medium |
| 52 | 11th | A | Mathematics | Parabola | Normal | Difficult |
| 53 | 12th | A | Mathematics | Area | Area between curves | Medium |
| 54 | 11th | A | Mathematics | Probability | Introduction | Medium |
| 55 | 12th | A | Mathematics | Relations and function | One -one functions | Easy |
| 56 | 11th | A | Mathematics | Straight line | Normal form | Easy |
| 57 | 12th | A | Mathematics | Differential equation | Linear differentail equation | Difficult |
| 58 | 12th | A | Mathematics | Integrations | Definite integrations | Difficult |
| 59 | 12th | A | Mathematics | Vectors | Different product of vectors | Medium |
| 60 | 12th | B | Mathematics | Integrations | Leibnetz rule | Medium |
| 61 | 11th | B | Mathematics | Sequence and series | Vn method | Medium |
| 62 | 11th | B | Mathematics | Complex numbers | Arguments | Medium |
| 63 | 11th | B | Mathematics | Statistics | Mean and Variance | Medium |
| 64 | 12th | B | Mathematics | Binomial theorem | General term | Medium |
| 65 | 11th | B | Mathematics | Permutations and Combinations | Permutations | Medium |

| | | | | | | |
|----|------|---|-------------|------------------------|------------------------|--------|
| 66 | 12th | B | Mathematics | Relations and function | FUnctional equation | Medium |
| 67 | 11th | B | Mathematics | Trigonometric | trigonometric equation | Medium |

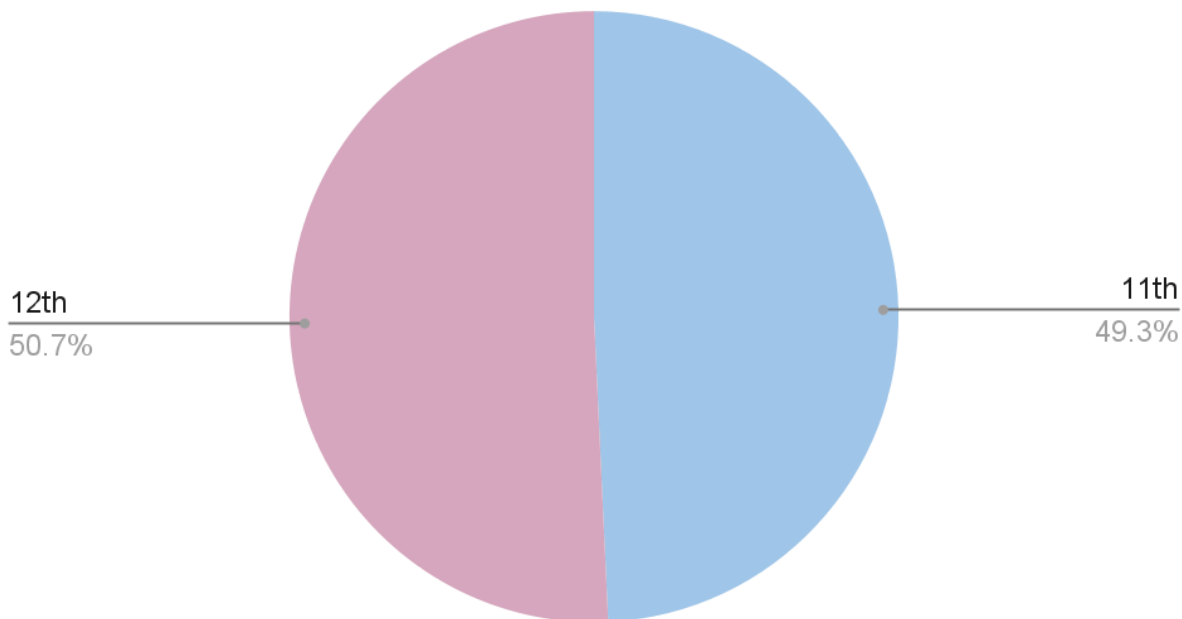
Class Wise Distribution Level Analysis

As per our expert faculties the questions from **equally distributed from class 11th and Class 12th.**
Below is the Class wise question distribution table -

| Subject | 11th | | 12th | |
|--------------------|------------------|-------------|------------------|-------------|
| | No. of Questions | Total Marks | No. of Questions | Total Marks |
| Physics | 13 | 52 | 12 | 48 |
| Chemistry | 10 | 40 | 13 | 52 |
| Mathematics | 10 | 40 | 9 | 36 |
| Grand Total | 33 | 132 | 34 | 136 |



Class Wise Distribution Analysis

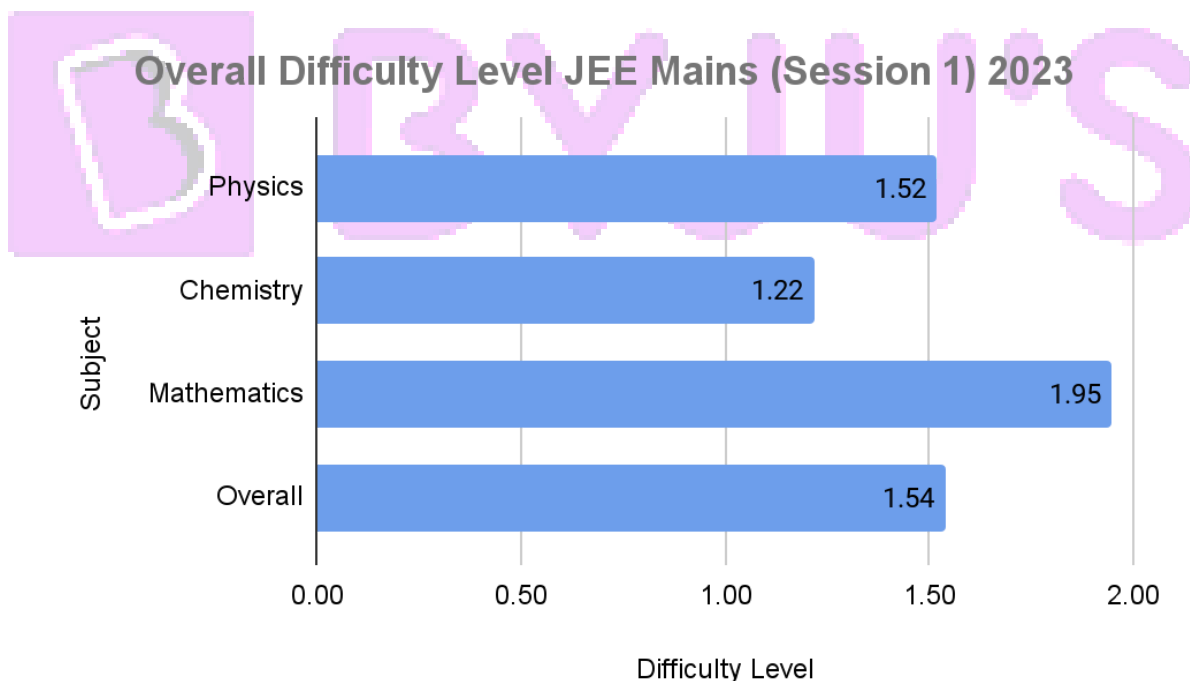


Overall Difficulty Level Analysis

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.

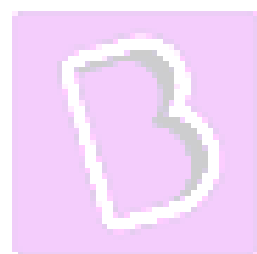
- Easy - 1
- Medium - 2
- Difficult - 3

| Subject | Difficulty Level |
|----------------|------------------|
| Physics | 1.52 |
| Chemistry | 1.22 |
| Mathematics | 1.95 |
| Overall | 1.54 |



Conclusion

The Overall Difficulty rating for **30th January JEE Mains Session 1 (Shift 1) 2023** was **1.54** 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.



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