# A Detailed Analysis of JEE Main (Session 1) 2023 01st February, 2023 Shift 2 (3 PM - 6 PM) <br> (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 <br> (ii)Chemistry <br> (iii)Mathematics |
| Type of questions | MCQs: 4 options with only 1 correct option <br> 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. <br> 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. <br> 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. <br> Total: 75 Questions ( $\mathbf{2 5}$ 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. <br> 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 $\mathbf{6 6}$ questions out of 90 questions i.e, $\mathbf{2 4}$ questions in Physics, $\mathbf{2 4}$ questions in Chemistry and $\mathbf{1 8}$ in Mathematics.

| Subject | Easy |  | Medium |  | Difficult |  | Grand Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. of <br> Questions | Total <br> Marks | No. of <br> Questions | Total <br> Marks | No. of <br> Questions | Total <br> Marks | No. of <br> Questions | Total <br> Marks |
|  | 15 | 60 | 9 | 36 | 0 | 0 | 24 | 96 |
| Chemistry | 20 | 80 | 2 | 8 | 2 | 8 | 24 | 96 |
| Mathemati <br> cs | 5 | 20 | 10 | 40 | 3 | 12 | 18 | 72 |
| Grand <br> Total | 40 | 160 | 21 | 84 | 5 | 20 | 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 <br> No | Class | Section | Subject | Chapter Name | Topic Name | Difficulty <br> Level |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 11 th | A | Physics | Gravitation | Acceleration due to garvity | Easy |
| 2 | 12 th | A | Physics | Atoms | Hydrogen Spectrum | Easy |
| 3 | 11 th | A | Physics | Mechanical Properties <br> Of Solids | Young's Modulus | Medium |
| 4 | 11 th | A | Physics | Thermodynamics | Carnot's Engine | Medium |
| 5 | 12 th | A | Physics | Ray Optics \& Optical <br> Instruments | Spherical Mirrors | Medium |
| 6 | 12 th | A | Physics | Dual Nature Of Matter <br> \& Radiation | Photoelectric Effect | Easy |
| 7 | 11 th | A | Physics | Laws Of Motion | Friction | Easy |
| 8 | 11 th | A | Physics | Units \& Measurements | Dimensional Analysis | Medium |
| 9 | 11 th | A | Physics |  <br> Rotational Motion | Moment Of Inertia | Medium |
| 10 | 11 th | A | Physics | Oscillations | Simple Pendulum | Easy |
| 11 | 12 th | A | Physics | Current Electricity | Grouping Of Resistance | Easy |
| 12 | 12 th | A | Physics | Semiconductor | Devices | Zener Diode |


| 22 | 12 th | B | Physics | Electromagnetic <br> Waves | Properties Of Electromagnetic <br> Waves | Easy |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 23 | 12 th | B | Physics |  <br> Magnetism | Application Of Biot Savart's <br> Law | Easy |
| 24 | 12 th | B | Physics |  <br> Magnetism | Magnetic Field due to Current <br> Loop | Medium |

Chemistry

| 25 | 12 th | A | Chemistry | P block elements-II | Group-15 | Easy |
| :---: | :---: | :---: | :--- | :---: | :---: | :---: |
| 26 | 12 th | A | Chemistry | Solution | Colligative properties | Easy |
| 27 | 12 th | A | Chemistry | Coordination <br> Compounds | Valence Bond Theory | Easy |
| 28 | 12 th | A | Chemistry | Hydrogen | Hydrogen Peroxide | Medium |
| 29 | 12 th | A | Chemistry | Surface Chemistry | Fruedlich Isotherm | Easy |
| 30 | 12 th | A | Chemistry | Chemistry in everyday <br> Life | Traquilizers | Easy |
| 31 | 11 th | A | Chemistry | Periodic classification | Electron gain enthalpy | Easy |
| 32 | 12 th | A | Chemistry | Aldehyde,Ketones and <br> carboxylic acids | Chemical reaction | Easy |
| 33 | 12 th | A | Chemistry | Coordination |  |  |
| Compounds | Isomerism | Easy |  |  |  |  |
| 34 | 11 th | A | Chemistry | Hydrogen | Preparation of hydrogen | peroxide |


|  |  |  |  |  | product |  |
| :---: | :---: | :---: | :--- | :---: | :---: | :---: |
| 44 | 12 th | A | Chemistry | P block elements-II | Group 17 | Easy |
| 45 | 12 th | B | Chemistry | Biomolecules | Harmones | Difficult |
| 46 | 12 th | B | Chemistry | Solid state | Density | Easy |
| 47 | 12 th | B | Chemistry | Biomolecules | Vitamins | Difficult |
| 48 | 12th | B | Chemistry | Chemical Kinetics | First order - Half life | Easy |

## Mathematics

| 49 | 11 th | A | Mathematics | Binomial theorem | General term in binomial <br> theorem | Easy |
| :---: | :---: | :---: | :--- | :---: | :---: | :---: |
| 50 | 12 th | A | Mathematics | Definite Integral | Property of D.I | Medium |
| 51 | 12 th | A | Mathematics | Application of Integral | Area under two curves | Medium |
| 52 | 11 th | A | Mathematics | Relation \& Function | Replacement Property | Medium |
| 53 | 12 th | A | Mathematics |  <br> Differentiability | Logarithmic Differentiation | Easy |
| 54 | 11 th | A | Mathematics | Mathematical <br> Reasoning |  | Tautology |


| 66 | 11 th | B | Mathematics | Statistics | Variance | Medium |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |

## Class Wise Distribution Level Analysis

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 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | No. of Questions | Total Marks | No. of Questions | Total Marks |
|  | 13 | 52 | 11 | 44 |
| Chemistry | 9 | 36 | 15 | 60 |
| Mathematics | 7 | 28 | 11 | 44 |
| Grand Total | 29 | 116 | 37 | 148 |



## 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 | 1.38 |
| Chemistry | 1.25 |
| Mathematics | 1.89 |
| Overall | $\mathbf{1 . 4 7}$ |



## Conclusion

The Overall Difficulty rating for 01st February JEE Mains Session 1 (Shift 2) 2023 was 1.47 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.


