

## **Paper Analysis - JEE (Main) 2019**

On 10 -Jan-2019, JEE Main was conducted for those students who opted to take this exam via the online mode (Shift - 1). Around 8 Lac students were selected to appear for this exam in online mode. These exams were conducted in two parts - Paper 1 and Paper 2.

Here is the analysis of Paper 1, which was conducted for the engineering aspirants.

### **Overall Marks Distribution**

The paper pattern of JEE Main Paper 1 was the same as that of the previous year. This paper had 90 questions in all, each worth 4 marks, along with a negative marking of -1 for every attempted incorrect answer. All questions were of objective type with one correct option. If we talk subject wise, then each subject had 30 questions of 120 marks.

### **Overall Difficulty Level Analysis**

In this analysis, every question is rated on a scale of 1 to 3. The individual ratings are then averaged to calculate overall difficulty level.

1: Easy

2: Moderate

3: Difficult

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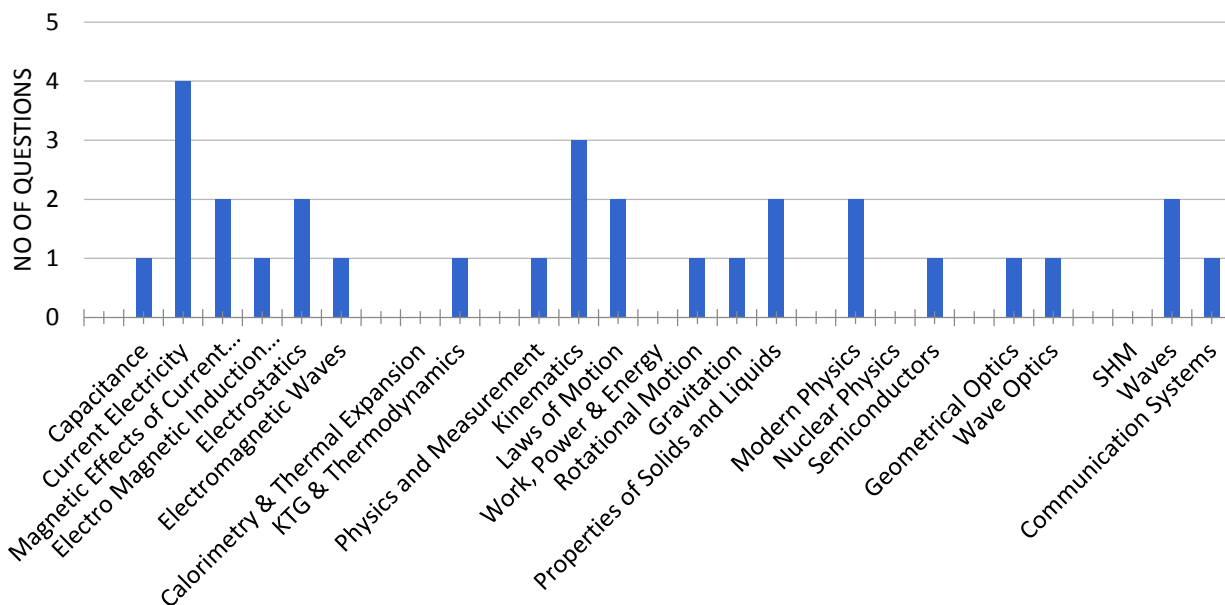
## Subject-Wise Analysis

### A – Physics

Topic wise allocation of # of Questions & Marks

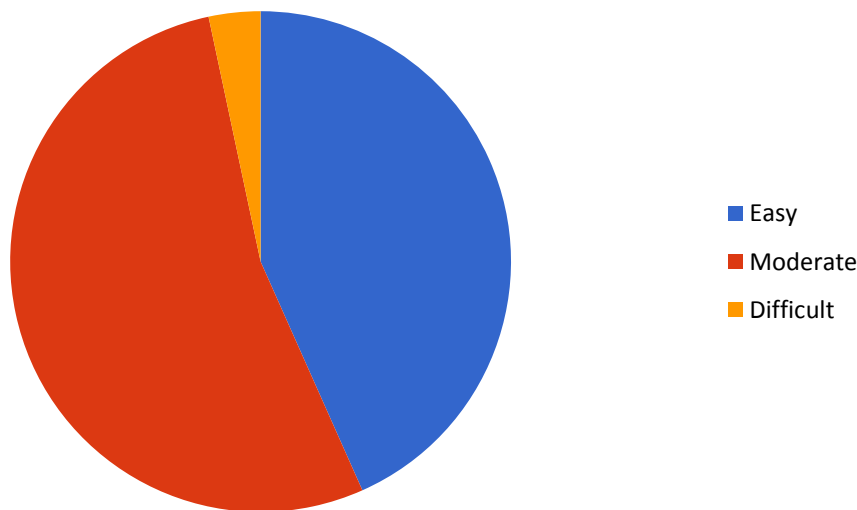
| Physics  |                 |             |                |
|--|-----------------|-------------|----------------|
| CHAPTER  | NO OF QUESTIONS | TOTAL MARKS | % WEIGHTAGE    |
| Capacitance  | 1               | 4           | 3.33%          |
| Current Electricity                                | 4               | 16          | 13.33%         |
| Magnetic Effects of Current and Magnetism          | 2               | 8           | 6.67%          |
| Electro Magnetic Induction and Alternating Current | 1               | 4           | 3.33%          |
| Electrostatics                                     | 2               | 8           | 6.67%          |
| Electromagnetic Waves                              | 1               | 4           | 3.33%          |
| Calorimetry & Thermal Expansion                    | 0               | 0           | 0.00%          |
| KTG & Thermodynamics                               | 1               | 4           | 3.33%          |
| Physics and Measurement                            | 1               | 4           | 3.33%          |
| Kinematics   | 3               | 12          | 10.00%         |
| Laws of Motion                                     | 2               | 8           | 6.67%          |
| Work, Power & Energy                               | 0               | 0           | 0.00%          |
| Rotational Motion                                  | 1               | 4           | 3.33%          |
| Gravitation  | 1               | 4           | 3.33%          |
| Properties of Solids and Liquids                   | 2               | 8           | 6.67%          |
| Modern Physics                                     | 2               | 8           | 6.67%          |
| Nuclear Physics                                    | 0               | 0           | 0.00%          |
| Semiconductors                                     | 1               | 4           | 3.33%          |
| Geometrical Optics                                 | 1               | 4           | 3.33%          |
| Wave Optics  | 1               | 4           | 3.33%          |
| SHM  | 0               | 0           | 0.00%          |
| Waves  | 2               | 8           | 6.67%          |
| Communication Systems                              | 1               | 4           | 3.33%          |
| <b>Grand Total</b>                                 | <b>30</b>       | <b>120</b>  | <b>100.00%</b> |

### NO OF QUESTIONS vs. CHAPTER



| Difficulty Level | Number of Questions |
|------------------|---------------------|
| Easy             | 13                  |
| Moderate         | 16                  |
| Difficult        | 1                   |

### Number of Questions

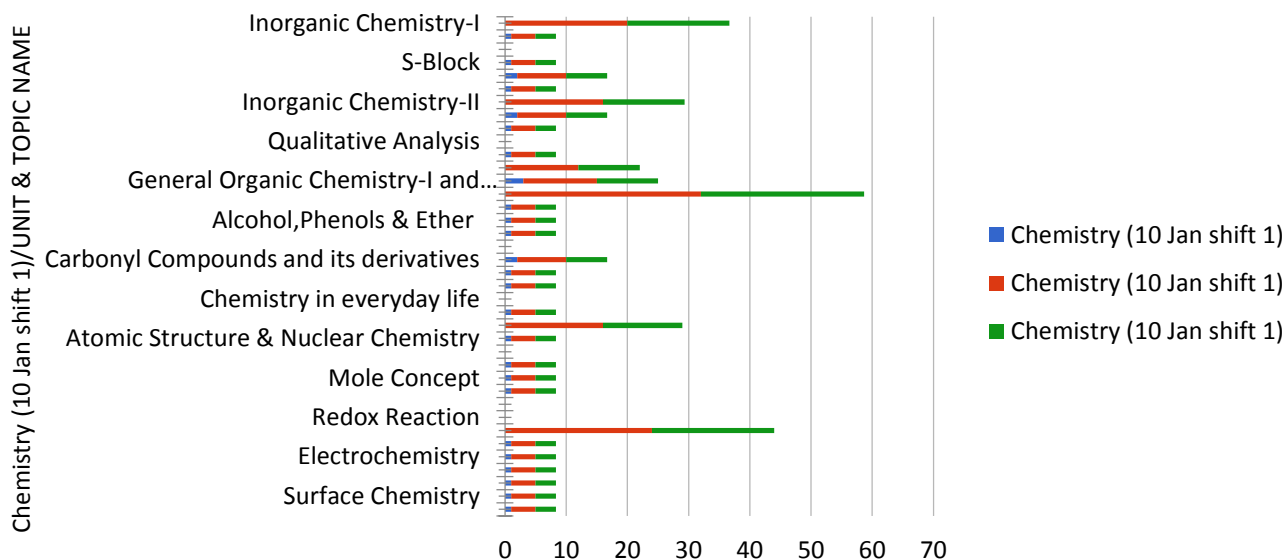


## B – Chemistry

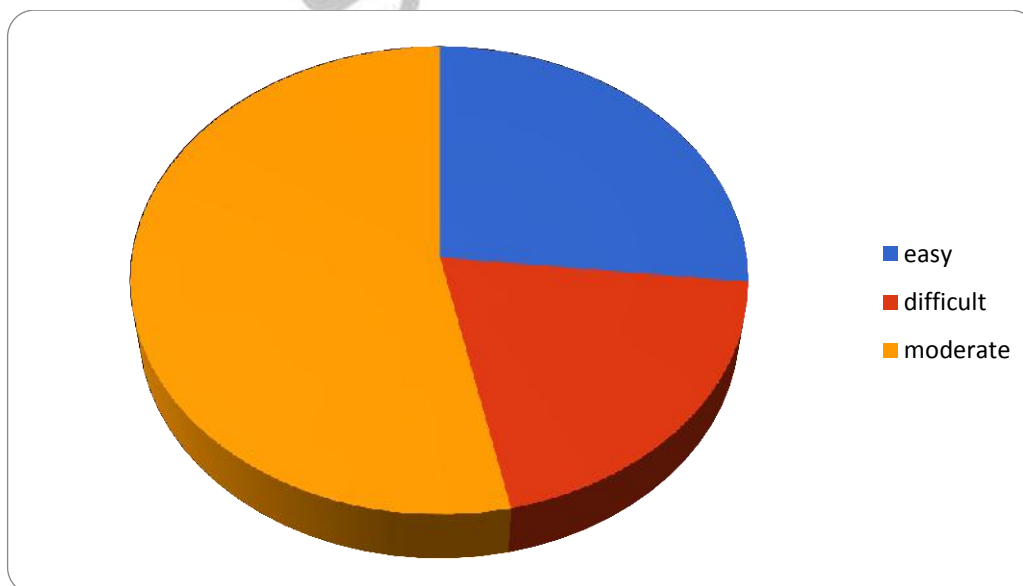
### Topic wise allocation of # of Questions & Marks

| Chemistry   |                |             |               |
|---|----------------|-------------|---------------|
| UNIT & TOPIC NAME                                   | NO OF QUESTION | TOTAL MARKS | % WEIGHTAGE   |
| <b>Inorganic Chemistry-I</b>                        | <b>5</b>       | <b>20</b>   | <b>16.66%</b> |
| Chemical Bonding                                    | 1              | 4           | 3.33%         |
| Periodic Table & Periodicity in Properties          | 0              | 0           | 0%            |
| S-Block   | 1              | 4           | 3.33%         |
| Hydrogen  | 2              | 8           | 6.67%         |
| p block-I   | 1              | 4           | 3.33%         |
| <b>Inorganic Chemistry-II</b>                       | <b>4</b>       | <b>16</b>   | <b>13.33%</b> |
| Coordination Compounds                              | 2              | 8           | 6.67%         |
| p block -II   | 1              | 4           | 3.33%         |
| Qualitative Analysis                                | 0              | 0           | 0%            |
| D and F block                                       | 1              | 4           | 3.33%         |
| <b>Organic Chemistry-I</b>                          | <b>3</b>       | <b>12</b>   | <b>10%</b>    |
| General Organic Chemistry-I and Hydrocarbons        | 3              | 12          | 10%           |
| <b>Organic Chemistry-II</b>                         | <b>8</b>       | <b>32</b>   | <b>26.66%</b> |
| Alkyl and Aryl Halide                               | 1              | 4           | 3.33%         |
| Alcohol, Phenols & Ether                            | 1              | 4           | 3.33%         |
| Biomolecules  | 1              | 4           | 3.33%         |
| Polymers  | 0              | 0           | 0%            |
| Carbonyl Compounds and its derivatives              | 2              | 8           | 6.67%         |
| Environmental chemistry                             | 1              | 4           | 3.33%         |
| Grignard Reagent, Reduction, Oxidation & Hydrolysis | 1              | 4           | 3.33%         |
| Chemistry in everyday life                          | 0              | 0           | 0%            |
| Amines  | 1              | 4           | 3.33%         |
| <b>Physical Chemistry-I</b>                         | <b>4</b>       | <b>16</b>   | <b>13%</b>    |
| Atomic Structure & Nuclear Chemistry                | 1              | 4           | 3.33%         |
| Ionic Equilibrium                                   | 0              | 0           | 0%            |
| Chemical Equilibrium                                | 1              | 4           | 3.33%         |
| Mole Concept  | 1              | 4           | 3.33%         |
| Thermodynamics and Thermochemistry                  | 1              | 4           | 3.33%         |
| States of matter                                    | 0              | 0           | 0%            |
| Redox Reaction                                      | 0              | 0           | 0%            |
| <b>Physical Chemistry-II</b>                        | <b>6</b>       | <b>24</b>   | <b>20%</b>    |
| Chemical Kinetics                                   | 1              | 4           | 3.33%         |
| Electrochemistry                                    | 1              | 4           | 3.33%         |
| Solid State   | 1              | 4           | 3.33%         |
| Solution & Colligative Properties                   | 1              | 4           | 3.33%         |
| Surface Chemistry                                   | 1              | 4           | 3.33%         |
| General Isolation of metals                         | 1              | 4           | 3.33%         |
| <b>Grand Total</b>                                  | <b>30</b>      | <b>120</b>  | <b>100%</b>   |

## Chemistry (10 Jan shift 1)/TOTAL MARKS and Chemistry (10 Jan shift 1)/WEIGHTAGE



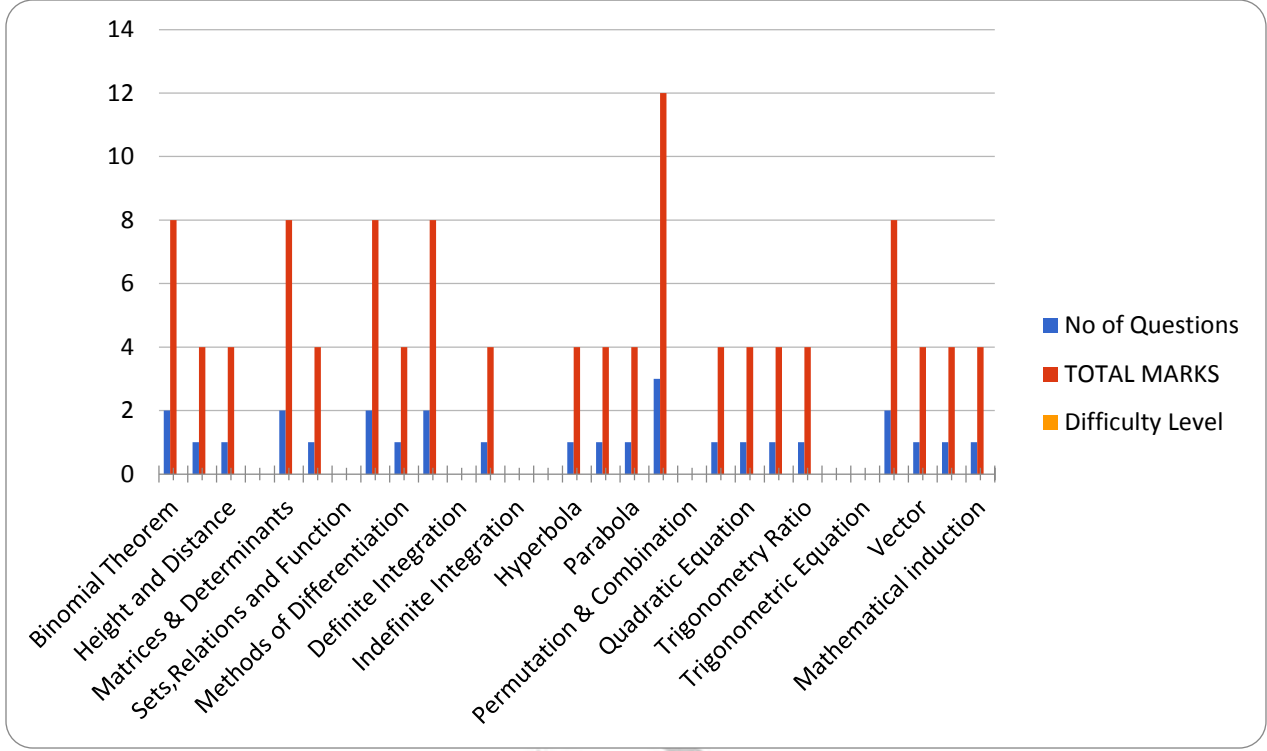
| Difficulty level | No of question (difficulty wise) | % Difficulty |
|------------------|----------------------------------|--------------|
| Easy             | 8                                | 26.66666667  |
| Difficult        | 6                                | 20           |
| Moderate         | 16                               | 53.33333333  |



## C – Mathematics

### Topic wise allocation of # of Questions & Marks

| Mathematics                           |                 |             |              |
|---------------------------------------|-----------------|-------------|--------------|
| UNIT & TOPIC NAME                     | No of Questions | TOTAL MARKS | % Weightage  |
| <b>Binomial Theorem</b>               | <b>2</b>        | <b>8</b>    | <b>6.67%</b> |
| Complex Numbers                       | 1               | 4           | 3.33%        |
| Height and Distance                   | 1               | 4           | 3.33%        |
| Mathematical Reasoning                | 0               | 0           | 0%           |
| <b>Matrices &amp; Determinants</b>    | <b>2</b>        | <b>8</b>    | <b>6.67%</b> |
| <b>Differential Calculus</b>          | <b>3</b>        | <b>12</b>   | <b>10%</b>   |
| Application of Derivatives            | 1               | 4           | 3.33%        |
| Sets, Relations and Function          | 0               | 0           | 0%           |
| Limit, Continuity & Differentiability | 2               | 8           | 6.67%        |
| <b>Methods of Differentiation</b>     | <b>1</b>        | <b>4</b>    | <b>3.33%</b> |
| <b>Integral Calculus</b>              | <b>3</b>        | <b>12</b>   | <b>10%</b>   |
| Area under Curve                      | 2               | 8           | 6.67%        |
| Definite Integration                  | 0               | 0           | 0%           |
| Differential Equation                 | 1               | 4           | 3.33%        |
| Indefinite Integration                | 0               | 0           | 0%           |
| <b>Coordinate Geometry (2-D)</b>      | <b>6</b>        | <b>24</b>   | <b>20%</b>   |
| Ellipse                               | 0               | 0           | 0%           |
| Hyperbola                             | 1               | 4           | 3.33%        |
| Circle                                | 1               | 4           | 3.33%        |
| Parabola                              | 1               | 4           | 3.33%        |
| Straight Lines                        | 3               | 12          | 10%          |
| Permutation & Combination             | 0               | 0           | 0%           |
| <b>Probability</b>                    | <b>1</b>        | <b>4</b>    | <b>3.33%</b> |
| <b>Quadratic Equation</b>             | <b>1</b>        | <b>4</b>    | <b>3.33%</b> |
| <b>Sequence &amp; Series</b>          | <b>1</b>        | <b>4</b>    | <b>3.33%</b> |
| <b>Trigonometry</b>                   | <b>1</b>        | <b>4</b>    | <b>3.33%</b> |
| Trigonometry Ratio                    | 1               | 4           | 3.33%        |
| Inverse Trigonometry                  | 0               | 0           | 0%           |
| Trigonometric Equation                | 0               | 0           | 0%           |
| <b>3-D and Vectors</b>                | <b>3</b>        | <b>12</b>   | <b>10%</b>   |
| Co-ordinate Geometry (3-D)            | 2               | 8           | 6.67%        |
| Vector                                | 1               | 4           | 3.33%        |
| <b>Statistics</b>                     | <b>1</b>        | <b>4</b>    | <b>3.33%</b> |
| Mathematical induction                | 1               | 4           | 3.33%        |
| <b>Grand Total</b>                    | <b>30</b>       | <b>120</b>  | <b>100%</b>  |



|                  |           |
|------------------|-----------|
| <b>Easy</b>      | <b>16</b> |
| <b>Moderate</b>  | <b>12</b> |
| <b>Difficult</b> | <b>0</b>  |

