

## IOQM (Pre - RMO)- MATHEMATICS Syllabus

Class – 8<sup>th</sup>, 9<sup>th</sup> or 10<sup>th</sup> (1 – Academic Year)



| Basics of Algebra             |                                      | Plane Geometry |                                     |
|-------------------------------|--------------------------------------|----------------|-------------------------------------|
|                               | Ratio & Proportion                   |                | Euclid Geometry                     |
|                               | Algebraic Expressions and Identities |                | Triangle, Quadrilateral & Polygon   |
|                               | Polynomials                          |                | Circles                             |
|                               | Linear Equation                      |                | Area, Herons Formula                |
| Quadratic Equations           |                                      |                | Surface Area & Volume               |
|                               | Inequations & Modulus                | Trigonometry   |                                     |
|                               | Quadratic Equations                  |                | Angles and Measurements             |
|                               | Functional Relationship              |                | Trigonometric ratio & Identities    |
| Sequence and Series           |                                      |                | Compound angles                     |
|                               | AP, GP & HP                          |                | Height & Distance                   |
|                               | Telescopic Series                    | Inequalities   |                                     |
|                               | Miscellaneous Series                 |                | Logarithmic & Exponential           |
| Number System / Number Theory |                                      |                | Cauchy-Schwarz Inequality           |
|                               | Logarithm, Prime Numbers             |                | Rearrangement Inequality            |
|                               | Factors and Multiples                |                | Jensen's Inequality                 |
|                               | HCF, LCM, Divisibility               |                | Inequalities involving real numbers |
|                               | Modular Arithmetic, Congruence       |                | RMS, AM, GM, HM inequalities        |
| Combinatorics                 |                                      | Miscellaneous  |                                     |
|                               | Counting, Binomial Coefficients      |                | Set Theory                          |
|                               | Permutation and Combinations         |                | Diophantine Equations               |
|                               | Probability                          |                |                                     |
|                               | Pigeonhole Principle                 |                |                                     |

Note: (1) Regular testing (Subjective & Objective Both) on 28 Days.