

Syllabus of TIMO for Grade 3 to Grade 6

Topics	Grade 3
Logical Thinking	Periodic Problem - Advanced Figure Pattern - IQ Age Problem & Date Problem Guess on 3-digit numbers - Basic Pigeonhole Principle
Arithmetic	Gaussian Addition - Smart Addition on 3-digit numbers with carrying - Smart Subtraction on 3-digit numbers with carrying - Multiplication on 3-digit numbers
Number Theory	Introduction on prime numbers - Sum, Difference & Multiples - Arithmetic Operation Basic Arithmetic Pattern - Simple Divisibility
Geometry	Counting on number of 2-D Figures - Counting on Vertices, Faces & Edges of 3-D Figures Observations about 3-D Figures - Basic Concept about Area & Perimeter Relationship between Line Segments, Angles & Figures
Combinatorics	Basic Routing Problem - Advanced Distribution - Counting on specific numbers Formation of a 3-digit number - Excess and Deficiency

Topics	Grade 4
Logical Thinking	Periodic Problem - Advanced Figure Pattern - Chicken Rabbit Theorem Guess on 3-digit numbers - Basic Pigeonhole Principle
Arithmetic	Gaussian Addition - Smart Addition on 4-digit numbers with carrying Smart Subtraction on 4-digit numbers with carrying - Multiplication on 3-digit numbers
Number Theory	Introduction on prime numbers - Sum, Difference & Multiples - Arithmetic Operation Relationship between L.C.M & H.C.F - Simple Divisibility
Geometry	Counting on number of 2-D Figures - Counting on Vertices, Faces & Edges of 3-D Figures Observations about 3-D Figures - Basic Concept about Area & Perimeter Relationship between Line Segments, Angles & Figures
Combinatorics	Basic Routing Problem - Advanced Distribution - Counting on specific numbers Formation of a 3-digit number - Excess and Deficiency

Topics	Grade 5
Logical Thinking	Chicken Rabbit Theorem - Speed, Distance & Time Problem – Guess on 4-digit - numbers by given number properties - Advanced Pigeonhole Principle
Arithmetic	Advanced Gaussian Addition - Smart Calculation on Decimals & Fractions - Sum of a series of square numbers - Method of Difference equations - Smart Addition on 5-digit numbers with carrying
Number Theory	Advanced Divisibility - Number of positive factors - Sum of all positive factors - Unit digit of a series of n -digit numbers
Geometry	Area & Perimeter of 2-D Figures - Ratio of Area of 2-D Figures - Volume & Surface Area of 3-D Figures – Counting on number of 2-D Figures - Relationship between Line Segments, Angles & Figures
Combinatorics	Advanced Pigeonhole Principle - Advanced Routing Problem - Combinations& Permutations – Principle of Inclusion and Exclusion - Excess and Deficiency

Topics	Grade 6
Logical Thinking	Construction Problem - Speed, Distance & Time Problem - Guess on 4-digit numbers by given number properties - Advanced Pigeonhole Principle
Arithmetic	Advanced Gaussian Addition - Smart Calculation on Fractions - Sum of a series of square numbers Sum of a series of cubic numbers - Method of Difference equations - Sum of Geometric Sequence
Number Theory	Advanced Divisibility - Number of positive factors - Sum of all positive factors Unit digit of a series of n -digit numbers
Geometry	Area & Perimeter of 2-D Figures - Ratio of Area of 2-D Figures - Volume & Surface Area of 3-D Figures Area of circle & Circumstance - Relationship between Line Segments, Angles & Figures
Combinatorics	Advanced Pigeonhole Principle - Advanced Routing Problem - Combinations& Permutations Principle of Inclusion and Exclusion - Simple Probability

Syllabus of TIMO for Grade 7 to Grade 9

Topics	Grade 7
Logical Thinking	Advanced Periodic Problems - Speed, Distance & Time Problem - Advanced Pigeonhole Principle Relationship between mean, median & sum - Guess on 4-digit numbers
Algebra	Operation on directed numbers - Algebraic expression - Linear Equations Introduction on Absolute Value - Simplification on surd form - Euclidean Algorithm
Number Theory	Advanced problems on Prime Numbers - Counting on possible solution(s) on Indefinite Equations Introduction on repeating surd forms - Sum of all Digits - Relationship between L.C.M & H.C.F
Geometry	Usage of Pythagorean theorem - Characteristics of Congruent Triangles & Similar Triangles Area of circle & Circumstance - Relationship between Line Segments, Angles & Figures Knowledge on Rectangular Coordinate System - Volume & Surface Area of 3-D Figures
Combinatorics	Principle of Inclusion and Exclusion - Simple Probability - Triangle Inequality

Topics	Grade 8
Logical Thinking	Advanced Pigeonhole Principle - Guess on 4-digit numbers - Relationship between mean, median & sum - Advanced Distributions - Advanced Periodic Problems
Algebra	Algebraic expression – Factorization - Introduction on Absolute Value - Simplification on surd form - Euclidean Algorithm - Introduction on Inequalities
Number Theory	Periodic remainder problems - Introduction on repeating surd forms - Extreme values of a polynomial - Factor Theorem - Counting on possible - solution(s) on Indefinite equations
Geometry	Advanced usage of Pythagorean theorem - Characteristics of Congruent Triangles & Similar Triangles Triangle Inequality - Relationship between Line Segments, Angles & Figures - Knowledge on Rectangular Coordinate System - Concepts about angle bisectors
Combinatorics	Advanced Pigeonhole Principle - Advanced Routing Problem - Combinations & Permutations Principle of Inclusion and Exclusion - Simple Probability - Counting on Like & Unlike Terms of a polynomial

Syllabus of TIMO for Grade 9 to Grade 12

Topics	Grade 9
Logical Thinking	Advanced Pigeonhole Principle - Guess on 4-digit numbers - Relationship between mean, median & sum - Advanced Distributions - Advanced Periodic Problems
Algebra	Sum & Product of roots of a quadratic equation - Algebraic expression - Introduction on Absolute Value - Simplification on surd form - Euclidean Algorithm - Introduction on Inequalities
Number Theory	Periodic remainder problems - Counting on possible solution(s) on Indefinite equations – Introduction on repeating surd forms - Extreme values of a polynomial - Modular Arithmetic
Geometry	Advanced usage of Pythagorean theorem - Menelaus' Theorem - Relationship between Line Segments, Angles & Figures - Advanced knowledge on Rectangular Coordinate System Trigonometry
Combinatorics	Advanced Pigeonhole Principle - Combinations & Permutations - Principle of Inclusion and Exclusion Advanced Probability - Counting on Like & Unlike Terms of a polynomial

Topics	Grades 10, 11, 12
Logical Thinking	Advanced Pigeonhole Principle - Guess on 5-digit numbers - Relationship between mean, median & Sum - Advanced Distributions - Advanced Periodic Problems
Algebra	Sum & Product of roots of a quadratic equation - Algebraic expression - Introduction on Absolute Value Simplification on surd form - Euclidean Algorithm - Introduction on Inequalities
Number Theory	Periodic remainder problems - Counting on possible solution(s) on Indefinite equations – Introduction on repeating surd forms - Extreme values of a polynomial - Modular Arithmetic - Introduction on complex numbers
Geometry	Advanced knowledge on Rectangular Coordinate System - Menelaus' Theorem - Relationship between Line Segments, Angles & Figures - Circumcenter, Incentre, Centroid & Orthocenter - Trigonometry
Combinatorics	Advanced Pigeonhole Principle - Combinations & Permutations - Principle of Inclusion and Exclusion Advanced Probability - Counting on Like & Unlike Terms of a polynomial