

BIHAR MATHEMATICAL SOCIETY

Revised syllabus for TSTM Olympiad 2020

Bihar Mathematical Society has decided to conduct TSTM Olympiad 2020 for Classes VI to XII. The New Syllabus is as follows:

Class VI

Number systems- Natural Numbers, Whole Numbers, Integers, Rational numbers, Factors & Multiples, Decimals and Fractions, Unitary Method, Mensuration, Algebraic equations and Expressions , Ratio And Proportion, Percentage and their applications , Symmetry, Geometry (Elementary Shapes, Line segment, parallel lines, Triangles and its properties).

Class VII

Integers, Rational Numbers and irrational numbers, Fractions and Decimals, Exponents and Powers, Identities, Algebraic Equations & Expressions, Profit and Loss, Lines and Angles, Comparing Quantities, Triangle and its Properties, Symmetry, Congruence of Triangles, , Perimeter and Area, Data Handling, Solid Shapes.

Class VIII

Real Number, Squares and Square Roots, Cubes and Cube Roots, Exponents and Powers, Comparing Quantities, Algebraic Expressions and Identities, Linear Equations in One Variable, Understanding Quadrilaterals, Constructions, Mensuration, Visualising Solid Shapes, Data Handling, Direct and Inverse Variations, Factorisation, Introduction to Graphs.

Class IX

Number Systems- Prime and Composite numbers, Congruence, Fermat and Wilson theorem, Pythagorean triads , Polynomials, Coordinate Geometry, Linear Equations in Two Variables, Introduction to Euclid's Geometry, Distance between two points, Area, simple linear equation Lines and Angles, Triangles, Quadrilaterals, Areas of Parallelograms and Triangles, Circles, Constructions, Heron's Formula, Surface Areas and Volumes, Statistics, Probability.

Class X

Real Numbers, Polynomials, Pair of Linear Equations in Two Variables, Quadratic Equations, Arithmetic Progressions, Triangles, Coordinate Geometry, Trigonometry and its applications, Circles, Constructions, Areas Related to Circles, Surface Areas and Volumes, Statistics, Probability.

Class XI

Sets, Relations and Functions, Principle of Mathematical Induction, Logarithms, Complex Numbers & Quadratic Equations, Linear Inequalities, Sequences and Series, Trigonometry, Conditional Identities, Trigonometrical Equations, Straight Lines, Conic Sections, **Combinatorics**- Simple Permutations and Combinations, Induction Principle, Highest power of n in n Pigeon Hole Principle (PHP). Only elementary type questions will be asked on this topics Binomial Theorem, Statistics, Limits and Differentiation continuous application Derivatives, Probability, Introduction to 3-D Geometry. Simple Integration.

Class XII

Number theory, Inequalities, Relations and Functions, Inverse Trigonometric Functions, Matrices and Determinants, Continuity and Differentiability, Application of Derivatives, Integrals, Application of Integrals, Differential Equations, Vector Algebra and their Applications, Three Dimensional Geometry, Probability, Linear Programming.