

## **Bhaskaracharya Mathematical Talent Search Competition (BMTSC)**

### **Syllabus**

(Based on the 6<sup>th</sup> and 7<sup>th</sup> standard syllabus of SSC, CBSE, and ICSE boards.)

#### **Arithmetic:**

1. Integers – Addition, Subtraction, Multiplication, Division
2. Vulgar and Decimal Fractions
3. Operations on Rational Numbers and their Decimal Representation (Terminal/Recurring)
4. Laws of Indices/Exponents
5. LCM and HCF – Concept, Methods and Practical (Word) Problems
6. Squares and Square Roots
7. Ratio and Proportion (Unitary Method)
8. Direct, Inverse Proportion and their Applications
  - Percentage
  - Simple Interest Formula and Its Application
  - Profit and Loss, Discount
  - Mixed Proportions Time-work-speed, Distance-time-speed etc.

#### **Algebra:**

1. Concept of a variable
2. Addition, Subtraction, Multiplication of mono/bino/trinomial
3. Simple Equations

#### **Geometry and Mensuration:**

1. Units of Measurements
2. Pairs of angles
  - Adjacent
  - Vertically Opposite
  - Linear Pair
  - Complementary
  - Supplementary
3. Definitions and Properties of
  - Angles
  - Parallel Lines and Transversal
  - Triangles
  - Quadrilaterals - Square, Rectangle, Parallelogram, Trapezium, Rhombus
  - Circle, Centre, Radius, Diameter, Chord
  - Perimeter and Area of the Triangle, Circle and Quadrilaterals mentioned above
4. Geometrical Constructions of and Properties of
  - Angle Bisector
  - Perpendicular Bisector of a Line Segment
  - Construction of a Triangle.
5. Circle
  - Circumference, Introduction to  $\pi$
  - Arc of a circle (Major, Minor, Measure of an Arc)
  - Central Angle

- Area of a circle and sector
6. Surface area of a Cuboid and a Cube
  7. Boudhayan-Pythagoras Theorem

**Data Handling:**

- Mean, Mode, Median, Range
- Bar Graphs

**Puzzles:**

- Number Patterns
- Alphanumeric
- Logical
- MISCELLANEOUS