MATHEMATICS

(For Science Students Only)

Part – I	75 Marks
Part – II	75 Marks
Total	**150 Marks**

Part-I (Class-IX)	**Marks: 75**	**Time: 2:30 Hours**

Unit-1 : REAL NUMBERS
- 1.1 Introduction to Real Numbers
- 1.2 Radical Expressions
- 1.3 Applications of Real Numbers in Daily Life

Unit-2 : LOGARITHMS
- Introduction
- 2.1 Scientific Notation
- 2.2 Logarithm
- 2.3 Common Logarithm
- 2.4 Laws of Logarithm

Unit-3 : SETS AND FUNCTIONS
- Introduction
- 3.1 Mathematics as the Study of Patterns, Structures and Relationships
- 3.2 Operations on Sets
- 3.3 Binary Relations

Unit-4 : FACTORIZATION AND ALGEBRAIC MANIPULATION
- Introduction
- 4.1 Identifying Common Factors and Trinomials Concretely, Pictorially and Symbolically
- 4.2 Factorization of the Expression
- 4.3 Highest Common Factor (HCF) and Least Common Multiple (LCM) of Algebraic Expression
- 4.4 Square Root of an Algebraic Expression

Unit-5 : LINEAR EQUATIONS AND INEQUALITIES
- Introduction
- 5.1 Linear Equation
- 5.2 Linear Inequalities
- 5.3 Feasible Solution

Unit-6 : TRIGONOMETRY
- Introduction
- 6.1 Identifying Angles in Standard Position (Degrees and Radians)
- 6.2 Trigonometric Ratios
- 6.3 Trigonometric Identities
- 6.4 Values of Trigonometric Ratios of Special Angles
- 6.5 Solution of a Triangle
- 6.6 The Angle of Elevation and the Angle of Depression

Unit-7 : COORDINATE GEOMERTY
- Introduction
- 7.1 Coordinate Plane
- 7.2 Equations of Straight Lines
- 7.3 Applications of Coordinate Geometry in Real Life Situations

Unit-8 : LOGIC
- Introduction
- 8.1 Statement

Unit-9 : SIMILAR FIGURES

Introduction
9.1 Similarity of Polygons
9.2 Area of Similar Figures
9.3 Volume of Similar Solids
9.4 Geometrical Properties of Polygon and their Applications

Unit-10 : GRAPHS OF FUNCTIONS
Introduction
10.1 Functions and their Graphs
10.2 Exponential Growth/Decay of a Practical Phenomenon through its Graph

Unit-11 : LOCI AND CONSTRUCTION
Introduction
11.1 Construction of Triangles
11.2 Perpendicular Bisectors and Medians of a Triangle
11.3 Angle Bisector of a Triangle
11.4 Altitudes of Triangle
11.5 Loci and construction
11.6 Real Life Application of Loci

Unit-12 : INFORMATION HANDLING
Introduction
12.1 Ungrouped and Grouped Data
12.2 Measures of Location (Central Tendency)

Unit-13 : PROBABILITY
Introduction
13.1 Probability of Single Event
13.2 Probability of an Event Not Occurring
13.3 Real Life Problems Involving Probability
13.4 Relative Frequency as an Estimate of Probability
13.5 Real Life Application of Relative Frequency
13.6 Expected Frequency
13.7 Real Life Application on Expected Frequency

Prescribed Book: **Mathematics (Science Group) for Part – I (Class –IX)**
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Part-II (Class-X)	**Marks: 75**	**Time: 2:30 Hours**

Unit-1 : QUADRATIC EQUATIONS
1.1 Quadratic Equation
1.2 Solution of quadratic equations
1.3 Quadratic Formula
1.4 Equations reducible to quadratic form
1.5 Radical equations

Unit-2 : THEORY OF QUADRATIC EQUATIONS
2.1 Nature of the roots of a quadratic equation
2.2 Cube Roots of Unity and their Properties
2.3 Roots and Co-efficient of a quadratic equation
2.4 Symmetric functions of the roots of a quadratic equation