Class IX

SYLLABUS OVERVIEW

SUBJECT: MATH-A

Teacher: RZ

Chapter No.	Name of the Chapter	Marks
PT-I		
1	**Number Systems**	5
2	**Polynomial**	6
HALF YEARLY		
3	**Coordinate Geometry**	5
13	**Statistic**	6
PT-II		
4	**Linear Equations in Two Variables**	9
14	**Surface Area and Volume**	9
YEARLY		
Revision		
Grand Total		**40**

TERM-I				
Month	**No. of Days**	**No. of Periods**	**Lesson/Unit**	**Activities/Projects/Practical experiment to be held/Specific Assessment Tools(s)**
April-June (PT-I)	41	10 9	**Number Systems** 1. Introduction to number system: *Natural Numbers, Whole Numbers, Integers, Integers, Rational Numbers, Irrational Numbers.* 2. Real Numbers – Definition, properties, represent of real numbers line on the number line. 3. Operations on Real Numbers 4. Irrational Numbers 5. Real number and their decimal expansions. 6. Laws of Exponents for Real Numbers. **Polynomial** 1. Introduction to Polynomial 2. Polynomials in One Variable 3. Zeroes of a Polynomial 4. Remainder Theorem 5.Factorisation of Polynomials 6. Algebraic Identities	

July-Sept (Half-Yearly)	47	6 9	**Coordinate Geometry** **1. Introduction to Coordinate Geometry** **2. Cartesian System** **3. Coordinates of a Point** **4. Plotting Points on the Cartesian Plane** 5. **Applications and Problem Solving** **Statistic** 1. Introduction to Statistics 2. Collection of Data 3. Organization of Data 4. Presentation of Data (Frequency Table) 5. Graphical Representation (Bar Graphs, Histograms, Frequency Polygons) .	

TERM-II				
Month	**No. of Days**	**No. of Periods**	**Lesson/Unit**	**Activities/Projects /Practical experiment to be held/Specific Assessment Tools(s)**
Oct-Dec (PT-II)	38	6 9	**Linear Equations in Two Variables** 1.Introduction to Linear Equations in Two Variables 2. General Form: $ax + by + c = 0$, where a,b and c are real numberzs, and a and b are both not zero . 3. Solution of Linear Equation 4. Practical problems **Surface Area and Volume** 1. Introduction to Surface Area and Volume 2. Surface Area : *Total Surface Area (TSA)* *Lateral Surface Area (LSA)* [Cube, Cylinder, Cone, Sphere, Hemisphere] 3. Volume : Cube, Cylinder, Cone, Sphere, Hemisphere 4. Conversion of Units 5. Application in Daliy Life	
Jan-Feb (Yearly)	26		**Revision**	**Revision**

SYLLABUS OVERVIEW

SUBJECT: MATH- B

Teacher: CP

Chapter No.	Name of the Chapter	Marks
PT-I		
6	Lines and Angles	7
7	Triangles	6
HALF YEARLY		
5	Introduction to Euclid's Geometry	2
8	Quadrilaterals	8
PT-II		
9	Circles	9
10	Heron's formula	8
YEARLY		
Revision		
	Grand Total	**40**

TERM-I				
Month	**No. of Days**	**No. of Periods**	**Lesson/Unit**	**Activities/Projects/Practical experiment to be held/Specific Assessment Tools(s)**
April-June (PT-I)	41	7	**UNIT – IV: GEOMETRY** **Chapter -6: LINES AND ANGLES** 1. (State without proof) If a ray stands on a line, then the sum of the two adjacent angles so formed is 180° and the converse. ` 2. (Prove) If two lines intersect, vertically opposite angles are equal. 3. (State without proof) Lines which are parallel to a given line are parallel.	**Activity-1** To verify that if two lines intersect, then (a) Vertically opposite angles are equal. (b) the sum of two adjacent angles is 180^0.
	12	6	**UNIT – IV: GEOMETRY** **Chapter-7: TRIANGLES** 1. (State without proof) Two triangles are congruent if any two sides and the included angle of one triangle is equal (respectively) to any two sides and the included angle of the other triangle (SAS Congruence). 2. (Prove) Two triangles are congruent if any two angles and the included side of one triangle is equal (respectively) to any two angles and the included side of the other triangle (ASA Congruence 3. (State without proof) Two triangles are congruent if the three sides of one triangle are equal (respectively) to three sides of the other triangle (SSS Congruence). 4. (State without proof) Two right triangles are congruent if the hypotenuse and a side of	**Activity – 2** To verify the sum of angles of a triangle is 180^0.

			one triangle are equal (respectively) to the hypotenuse and a side of the other triangle. (RHS Congruence). 5. (Prove) The angles opposite to equal sides of a triangle are equal. 6. (State without proof) The sides opposite to equal angles of a triangle are equal.	
July-Sept (Half-Yearly)	12	2	**UNIT – IV: GEOMETRY** **Chapter-5: INTRODUCTION TO EUCLID'S GEOMETRY** 1. History - Geometry in India and Euclid's geometry. Euclid's method of formalizing observed phenomenon into rigorous Mathematics with definitions, common/obvious notions, axioms/postulates, and theorems. 2. The five postulates of Euclid. Equivalent versions of the fifth postulate. Showing the relationship between axiom and theorem.	**Activity- 3** To write the axioms and postulates in chart paper.
	12	8	**UNIT – IV: GEOMETRY** **Chapter-8: QUADRILATERALS** 1. (Prove) The diagonal divides a parallelogram into two congruent triangles. 2. (State without proof) In a parallelogram opposite sides are equal, and conversely. 3. (State without proof) In a parallelogram opposite angles are equal, and conversely. 4. (State without proof) A quadrilateral is a parallelogram if a pair of its opposite sides is parallel and equal. 5. (State without proof) In a triangle, the line segment joining the mid points of any two sides is parallel to the third side and is half of it and (State without proof) its converse.	**Activity- 4** To obtain a parallelogram by paper folding.

TERM-II				
Month	**No. of Days**	**No. of Periods**	**Lesson/Unit**	**Activities/Projects /Practical experiment to be held/Specific Assessment Tools(s)**
Oct-Dec (PT-II)	38	16	**Chapter – 9: Circles** 1. (Prove) Equal chords of a circle subtend equal angles at the center and (State without proof) its converse. 2. (State without proof) The perpendicular from the center of a circle to a chord bisects the chord and conversely, the line drawn through the center of a circle to bisect a chord is perpendicular to the chord. 3. (State without proof) Equal chords of a circle (or of congruent circles) are equidistant from the center (or their respective centers) and conversely. 4. (Prove) The angle subtended by an arc at the center is double the angle subtended by it at any point on the remaining part of the circle. 5. (State without proof) Angles in the same segment of a circle are equal 6. (State without proof) If a line segment joining two points subtends equal angle at two other points lying on the same side of the line containing the segment, the four points lie on a circle. **7.** (State without proof) The sum of either of the pair of the opposite angles of a cyclic quadrilateral is 180° and its converse.	**Activity – 5** To verify the angle subtended by an arc at the center of a circle is double the angle subtended by it at any point on the remaining part of the circle.
Jan-Feb (Yearly)	26	15	A brief revision of all the chapters will be conducted, followed by a class test for each chapter. Remedial classes will also be conducted for slow learners based on their performance.	