

# Annual Syllabus

Session 2022-2023

Class-VIII (Level – 1)

Subject: Mathematics

Chapter No. and Name	Content and its mapping with previous classes	Learning Outcomes	Suggested Activities
<b>Chapter-2 Linear Equation in One Variable</b>	<p><b>Class VI: -</b> Addition &amp; Subtraction of Integers, Addition &amp; Subtraction of Fraction, Addition &amp; Subtraction of Decimal (Use Worksheet No. 14, 15, 16, 17, 18, 19, 20, 21, 22 and 23)</p> <p><b>Class VII: -</b> Multiplication &amp; Division of Integers, Multiplication &amp; Division of Fraction, Multiplication &amp; Division of Decimal, Equivalent ratios, percentage (Use Worksheet No. 1, 5, 6, 7, 8, 10, 11, 12, 13, 31, 32, 33, 34 and 35)</p> <p><b>Class VIII: -</b> Introduction, Solving equations which have linear expressions on one side and numbers on the other side, Some applications. (Use Worksheets No. 5 and 6.)</p>	<p>The learner:</p> <ul style="list-style-type: none"><li>• Solves problems based on linear equation in variable.</li><li>• Solves puzzles and daily life problems using variables.</li></ul>	<ul style="list-style-type: none"><li>• Play with numbers game, Picture / card game.</li><li>• Story: Crocodile Dada. (<b>Pragati</b>)</li></ul>
<b>Chapter - 6 Squares and Square roots</b>	<p>* <b>Class VI: -</b> Multiplication of number by itself. Place &amp; Face value. (Use Worksheet No.1 and 9)</p> <p>* <b>Class VII: -</b> Exponents, Laws of Exponents (Use Worksheet No.16, 17 and 18)</p> <p><b>Class VIII: -</b> Introduction, Properties of square numbers, Some more interesting patterns, Finding the square of a number, Pythagorean triplets, Square roots through repeated subtraction, prime factorization and division method, Square roots of decimals, Estimating square roots (Use Worksheets No. 10, 11, 12, 13, 14, 15, 16, 17, 18 and 19.)</p>	<p>The learner:</p> <ul style="list-style-type: none"><li>• Finds square and square roots of numbers using different methods.</li><li>• Uses square roots in solving problems of daily life.</li></ul>	<ul style="list-style-type: none"><li>• To make square using straw and reshape the figure by shifting the straws - play with straws.</li><li>• Draw the square on a graph paper and count them /Tower Pattern.</li><li>• Square MAZE</li><li>• Use Worksheets No. 10, 11, 12, 13, 14, 15, 16, 17, 18 and 19.</li></ul>

<b>Chapter-7 cubes and cube roots</b>	<p>* <b>Class VI:</b> - same as Chapter 6</p> <p>* <b>Class VII:</b> - same as Chapter 6</p> <p><b>Class VIII:</b> - Introduction, Cubes and Cube roots (Use Worksheets No. 29, 30, 31, 32, 33 and 34.)</p>	<p>The learner:</p> <ul style="list-style-type: none"> <li>• Finds cube and cube roots of a number.</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Finding Volume of different size RUBRIC CUBE. Cube root MAZE</li> </ul>
---	---	---	--

- **The above content must be completed for Mid Term Examination by 30<sup>th</sup> September, 2022.**
- **Mental Maths & Maths Lab Activities**
- **Revision of syllabus for Mid Term Examination.**

### MID TERM EXAMINATION – 2022

<b>Chapter-3 Understanding Quadrilaterals</b>	<p><b>Class VI:</b> - Points, A Line Segment, A Line, Intersecting Lines, Parallel Lines, Ray, Curves, Polygons, Angles, Triangles, Classification of Triangles, Quadrilaterals, Circles. (Use Worksheet No. 29, 31, 32, 33, 34 and 48)</p> <p><b>Class VII:</b> - Pair of lines, checking for parallel lines. Medians of a triangle, altitudes of a triangle, Exterior angle of a triangle, two special triangle and its property, angle sum property of a triangle, equilateral and isosceles triangle, sum of the lengths of two sides of a triangle, right angled triangle and Pythagoras property. (Use Worksheet No.4, 14, 15, 27, 28, 29 and 30)</p> <p><b>Class VIII:</b> - Introduction, Polygons: Classification of polygons, Diagonals, Concave and Convex polygons, Regular and irregular polygons, Angle sum property, Sum of the measures of the exterior angles of a polygon, Kinds of quadrilaterals: Trapezium, Kite, Parallelogram, Elements of parallelogram, Angles of a parallelogram, Diagonals of parallelogram. (Use Worksheets No. 20, 21, 22, 23 and 24.)</p>	<p>The learner:</p> <ul style="list-style-type: none"> <li>• Solves problems related to angles of quadrilateral using angle sum property.</li> <li>• Verifies properties of parallelogram and establishes the relationship between them through reasoning.</li> <li>• Generalizes properties of different types of quadrilaterals.</li> </ul>	<ul style="list-style-type: none"> <li>• Diagonals of a polygon: Making, identification of vertices &amp; counting of Diagonals of a polygon with the help of students.</li> <li>• Making of circle &amp; Quadrilateral with the help of DOTs.</li> <li>• Paper cutting: Making Different type of Quadrilateral.</li> <li>• Game of KITES: A Role Play/Story in Mathematics.</li> </ul>
<b>Chapter-4 Practical Geometry</b>	<p><b>Class VI:</b> - Construct a Line Segment, Perpendiculars, Angles (Use Worksheet No. 24, 25, 26, 27 and 28)</p> <p><b>Class VII:</b> - Construction of a line parallel to a given line through a point not on the line. Construction of triangles (Use Worksheet No. 36, 37, 38, 39, 40 and 41)</p>	<p>The learner:</p> <ul style="list-style-type: none"> <li>• Construct different quadrilaterals using compasses and straight edge.</li> </ul>	<ul style="list-style-type: none"> <li>• Mr. Robot (fill the colours in robot made up of different shapes).</li> <li>• Head craft (Cutting and colouring different geometrical shapes and paste like head craft).</li> </ul>

	<p><b>Class VIII: -</b> Introduction, Construction of quadrilaterals</p> <p>(i) When four sides and one diagonal given. (ii) When two diagonals and three sides are given. (iii) When two adjacent sides and three angles are given. (iv) When three sides and two included angles are given. (v) When other special properties are known.</p>		
<b>Chapter-9 Algebraic Expressions and Identities</b>	<p><b>Class VIII: -</b> What are expressions?, Terms, Factors, Coefficients, Monomials, Binomials and Polynomials, Like and Unlike terms, Addition and subtraction of algebraic expressions, Multiplication of algebraic expression: Introduction, Multiplying a monomial by a monomial. <b>(Use Worksheets No. 35, 36, 37, 38, 39 and 40.)</b></p>	<p>The learner:</p> <ul style="list-style-type: none"> <li>Addition, subtraction and multiplication of algebraic expression.</li> </ul>	<ul style="list-style-type: none"> <li>Sorting and writing surrounding patterns.</li> </ul>
<b>Chapter-11 Mensuration</b>	<p><b>Class VII: -</b> Visualizing plane figures <b>(Use Worksheet No.19.)</b></p> <p><b>Class VIII: -</b> Introduction, Let us recall, Area of trapezium, Area of a general quadrilateral, Area of a polygon. Surface Area &amp; Volume of Cube, Cuboid and Cylinder <b>(Use Worksheets No. 27 and 28.)</b></p>	<p>The learner:</p> <ul style="list-style-type: none"> <li>Estimates the area of shapes like trapezium and other polygon by using square grid/ graph sheet and verifies using formulas.</li> <li>Finds the area and perimeter of polygon.</li> <li>Uses surface area and volume in solving problems of daily life.</li> </ul>	<ul style="list-style-type: none"> <li>An activity for establishing a relationship between circumference and diameter, representing their ratio as <math>\pi</math>.</li> <li>Dividing a circular region into small sectors and arranging them in the form of rectangle and finding the area of circle.</li> <li>Measure length, width and height of your classroom and find (a) the total surface area of the room, ignoring the area of windows and doors. (b) the lateral surface area of this room. (c) the total area of the room which is to be white washed.</li> </ul>
<b>Chapter-14 Factorization</b>	<p><b>Class VIII: -</b> Introduction, What is factorization?, Method of common factors, Factorisation by regrouping terms.</p>	<p>The learner:</p> <ul style="list-style-type: none"> <li>Finds factors of algebraic expression.</li> </ul>	
<ul style="list-style-type: none"> <li>➤ <b>The whole syllabus must be completed by 31<sup>st</sup> January, 2023.</b></li> <li>➤ <b>Mental Maths &amp; Maths Lab Activities</b></li> <li>➤ <b>Revision of syllabus for Annual Examination.</b></li> <li>➤ <b>Annual Examination will be based on complete syllabus.</b></li> </ul>			
<b>ANNUAL EXAMINATION – 2023</b>			
<p><b>Note:</b></p> <ul style="list-style-type: none"> <li>➤ <b>The above said syllabus is for assessment purpose only and remaining topics/chapters may be taught as Subject Learning Enrichment.</b></li> </ul>			