HANSRAJ MODEL SCHOOL

PUNJABI BAGH, NEW DELHI

CURRICULUM PLAN

SESSION: 2024-25

SUBJECT: MATHEMATICS

CLASS: IX

MONTH	TOPIC/SUB TOPIC	LEARNING INTENTIONS	ACTIVITIES	ASSIGNMENTS
APRIL	<u>NUMBER SYSTEM</u> • Introduction • Real numbers and their decimal expansion • Representing real numbers on the number line. • Operation on real numbers and rationalisation.,	Understanding of different types of numbers i.e. Rational numbers and Irrational numbers. Rationalisation of irrational numbers. Representation of real numbers on number line. Laws of exponents for real number.	**CONTENT RELATED** • To construct a square rootspiral representing the square root of a given spiral number. **ART INTEGRATION WORK** • To find square root spiralin nature (wheel of Theodorus) and create any art work containing square root spiral.	NCERT ASSIGNMENT: 1. EX 1.1, Q2 2. EX 1.3, Q9 3. EX 1.4, Q2 4. EX 1.5, Q3 **SPECIAL ASSIGNMENT:** https://drive.google.com/file/d/1wrHgaDx11-92EJ-pX35xhJjv6jyM5s7L/view?usp=sharing

	• Definition of nth root of a real number. • Laws of Exponents for real numbers.			
MAY	<u>POLYNOMIALS</u> • Introduction • Polynomials in one variable • Zeroes of a polynomial • Remainder Theorem, factor theorem • Factorization of polynomials • Algebraic Identities <u>CO-ORDINATE GEOMETRY</u> • Cartesian System • Co- ordinates of a point.	Definition of a polynomial in one variable. Degree of a polynomial. State and motivate remainder theorem with examples. Statement and proof of the Factor theorem. Factorisation of quadratic and cubic polynomials. Recall of algebraic expressions and identities. Verification of identities. The Cartesian plane, coordinates of a point, names and terms associated	**CONTENT RELATED** • To make foldables / bookmarks depicting allthe concepts of polynomials. **CONTENT CURRICULUM ACTIVITY**	NCERT ASSIGNMENT: 1. EX 2.1, Q4 AND Q5 2. EX 2.2, Q2 3. EX 2.3, Q2 4. EX 2.4, Q2 AND Q7 SPECIAL ASSIGNMENT: https://drive.google.com/file/d/1ze306I_Jrj-diNEyAZ7dDErI41ubxUMJ/view?usp=sharing 1. EX 3.2, Q2

		with the coordinate plane, Notations.	• Draw image of Monument/Cartoon/Birds/Animals etc taking x-axis and y axis as line of symmetry. • Special assignment	

JULY	LINEAR EQUATIONS IN TWOVARIABLES • Introduction • Linear Equations • Solutions of Linear Equation in two variables INTRODUCTION TO EUCLID'SGEOMETRY Axioms The five postulates of Euclid.	A linear equation in two variables has infinitely many solutions. Finding algebraic solution of the linear equation in two variables. History - Geometry in India and Euclid'sgeometry. Euclid's method of formalizing observed phenomenon	• Activity : Stained Glass Window. • Activity : Student will draw a sketch of Euclid or Any Other Mathematician .	NCERT ASSIGNMENT: 1. EX 4.1, Q2 2. EX 4.2, Q3 (iii) & (v) and Q4 SPECIAL ASSIGNMENT: https://drive.google.com/file/d/1N6ThrhvHmFpCU05qJbXeAPixexXRPNi6/view?usp=sharing NCERT ASSIGNMENT: 1. EX 5.1, Q2 SPECIAL ASSIGNMENT: https://drive.google.com/file/d/1OEmE-XO96209nhwHm_rU8Sp66xuSSh7_/view?usp=sharing

AUGUST	• Showing the relationship between axioms and theorems. <u>LINES AND ANGLES</u> • Basic terms and Definitions • Intersecting lines and non-intersecting lines • Parallel lines and a transversal <u>TRIANGLES</u> • Congruence of Triangles • Criteria congruence of triangles • Some properties of triangle • Some more criteria for congruence of triangle	into rigorous Mathematics with definitions, common/obvious notions, axioms/postulates and theorems. Understanding of intersecting lines and non - intersecting lines, pairs of angles, linear pair axiom, corresponding angles axiom. Properties of parallel lines. Criteria for congruency of triangle, SAS congruency axiom. ASA congruency rule(with proof). Motivate SSS and RHS congruency rule.	- Crossword puzzle - Special assignment (MCQ) **(CONTENT RELATED)** • Activity : Solve the Puzzle - **CONTENT RELATED** • To verify Pythagoras Theorem To decorate cover page of their maths register on the theme ofindependence using warli art.	NCERT ASSIGNMENT: 1. EX 6.1, Q3 AND Q4 2. EX 6.2, Q4 SPECIAL ASSIGNMENT: https://drive.google.com/file/d/1sS2n-lijT2mmU_PZYAaro9dd3-SH_Opl/view?usp=sharing NCERT ASSIGNMENT: 1. EX 7.1, Q5 AND Q3 2. EX 7.2, Q3 AND Q5 SPECIAL ASSIGNMENT: https://drive.google.com/file/d/1VXcW8qqpJkyOTYm_Bfls5-w_xLZ7E0iK/view?usp=sharing

	HERON'S FORMULA • Area of triangle	Area of a triangle using Heron's formula (without proof	• Students will be asked to make a paper cut-out of an Aeroplane and find its area using concept of heron's formula.	NCERT ASSIGNMENT: 1. EX 10.1, Q3 AND Q5 SPECIAL ASSIGNMENT: https://drive.google.com/file/d/1FBSjsdyS2de5Eeu71V--ykcoojOJr2WA/view?usp=sharing
SEPTEMBER	Revision For Half-Yearly Examination			
OCTOBER	SURFACE AREA AND VOLUME • Surface area of a right circular Cone • Surface area of a Sphere and hemisphere. • Volume of a right circular Cone	Surface area and volumes of spheres(including hemispheres) and right circular cones.	**ART INTEGRATION** • Students will be making working models of finding Surface areas and volumes of different solids, • Students will be making Diwali festoons using conceptof platonic solids.	NCERT ASSIGNMENT: 1. EX 11.1, Q3 AND Q7 2. EX 11.2, Q2 AND Q3 3. EX 11.3, Q2 AND Q5 4. EX 11.4, Q2 AND Q5 SPECIAL ASSIGNMENT: https://drive.google.com/file/d/1D2syE17GUpPFcitDHgZqJuVd5EEFusjX/view?usp=sharing

	Volume of a Sphere and hemisphere			

NOVEMBER	STATISTICS • Graphical representation of Data	Bar graphs, Histogram (with varying base length) and Frequency Polygons	**(CONTENT RELATED** • Framing Case Based and Assertion Reason Questions on the Topic by students.	NCERT ASSIGNMENT: 1. EX 12.1, Q2, Q5 AND Q6 SPECIAL ASSIGNMENT: https://drive.google.com/file/d/11RBAiRnX4dr2WBxWbULtq_69o7bk0Fdo/view?usp=sharing
DECEMBER	QUADRILATERALS • Types of Quadrilaterals • Properties of a Parallelogram • Another Condition for a Quadrilateral tobe a parallelogram • Mid-point theorem(without proof)	Diagonal of a parallelogram divides it into two congruent triangles(with proof), other Properties of parallelogram(without proof) ,midpoint theorem and its converse(without proof)	**ART INTEGRATION** • Students will make Mind maps / Flow charts for different type of quadrilaterals depicting their properties.	NCERT ASSIGNMENT: 1. EX 8.1, Q6 2. EX 8.2, Q4 SPECIAL ASSIGNMENT: https://drive.google.com/file/d/167DEDPxgnkpyrgYUBAbwA2nUGUq6rtWD/view?usp=sharing https://drive.google.com/file/d/1a-cYmCkRMCOLQbHiLiViGYH-lxI3HZEO/view?usp=sharing

	CIRCLES • Circles and its related terms • Angle Subtended by a chord at a point • Perpendicular from the centre to the chord.	Circles and terms related to it such as chord, arc, segment, sector etc. Equal chords of a circle subtend equal angles atthe centre(proof) and (motivate) its converse.	**CONTENT RELATED** • To verify degree measure theorem by paper cutting pasting. • To verify that angles in the same segment of a circle are equal by papercutting pasting.	NCERT ASSIGNMENT: 1. EX 9.1, Q2 2. EX 9.2, Q3 3. EX 9.3, Q1 AND Q4 SPECIAL ASSIGNMENT: https://drive.google.com/file/d/1olAuP0QmqkoyozZVDemrCM0l9QjU7KIS/view?usp=sharing https://drive.google.com/file/d/1AEMmpNHLJCt7BUOf7IXfx4PoSs_EEWdB/view?usp=sharing
JANUARY	CIRCLES (CTD.) • Equal chords and their distances from the centre • Angle subtended byan arc of a circle • Cyclic quadrilaterals	Properties of equal chords, angles made by arcs. The angle subtended by an arc at the centre is double the angle subtended by it at any point on the remaining part of the circle.	• Activity : Rangoli making using Mandala Art.	