

BAGARIA BAL VIDYA NIKETAN

LACHHMANGARH-SIKAR

SYLLABUS & LESSON PLANNER 2023-24

CLASS	XI
SUBJECT	Mathematics
TEACHER'S NAME	Praveen Saini

SYLLABUS

CH. NO.	NAME OF CHAPTER	WORKING DAY	PERIOD	TOPIC	MONTH	WEEK
Unit: II	Algebra: Complex Numbers Linear Inequalities Permutations and combinations	25	16	Need for complex numbers, especially $\sqrt{-1}$, to be motivated by inability to solve some of the quadratic equations. Algebraic properties of complex numbers. Argand plane	July	1
				Linear inequalities. Algebraic solutions of linear inequalities in one variable and their representation on the number line Fundamental principle of counting. Factorial n. (n!) Permutations and combinations, derivation of Formulae for nPr and nCr and their connections, simple applications		2
Unit: II & I	Algebra: Binomial Theorem Sequence and Series Trigonometric Functions	26	32	Historical perspective, statement and proof of the binomial theorem for positive integral indices. Pascal's triangle, simple applications.	August	1
				Sequence and Series. Arithmetic Mean (A.M.) Geometric Progression (G.P.), general term of a G.P., sum of n terms of a G.P., infinite G.P. and its sum, geometric mean (G.M.), relation between A.M. and G.M.		2
				Positive and negative angles. Measuring angles in radians and in degrees and conversion from one measure to another. Definition of trigonometric functions with the help of unit circle		3& 4
				Sets and their representations, Empty set, Finite and Infinite sets, Equal sets, Subsets, Subsets of a set of real numbers especially intervals (with notations)		1

Unit: I	Sets relations and Functions	24	32	Universal set. Venn diagrams. Union and Intersection of sets. Difference of sets. Complement of a set. Properties of Complement.	September	2
				Ordered pairs. Cartesian product of sets. Number of elements in the Cartesian product of two finite sets.		3
				Real valued functions, domain and range of these functions, constant, identity, polynomial, rational, modulus, signum, exponential, logarithmic and greatest integer functions, with their graphs. Sum, difference, product and quotients of functions		4
Syllabus break due to holidays and exam period in the month of October.						
Unit: V	Statistics and Probability	22	32	Measures of Dispersion: Range, Mean deviation.	November	1
				variance and standard deviation of ungrouped/grouped data.		2
				Events; occurrence of events, 'not', 'and' and 'or' events, exhaustive events.		3
				mutually exclusive events, Axiomatic (set theoretic) probability, connections with other theories of earlier classes. Probability of an event, probability of 'not', 'and' and 'or' events.		4
Unit: IV	Calculus: Limits and Derivatives	24	24	Derivative introduced as rate of change both as that of distance function and geometrically. Intuitive idea of limit	December	1
				Limits of polynomials and rational functions trigonometric, exponential and logarithmic functions. Definition of derivative relate it to slope of tangent of the curve, derivative of sum, difference, product and quotient of functions		2
				Derivatives of polynomial and trigonometric functions		3
Unit: III	Coordination Geometry: Straight Lines	24	16	Brief recall of two dimensional geometry from earlier classes. Slope of a line and angle between two lines.	January	1
				Various forms of equations of a line: parallel to axis, point -slope form, slope-intercept form, two-point form, intercept form, Distance of a point from a line.		2
Unit: III	Coordination Geometry: Conic Sections and 3-D	25	32	Sections of a cone: circles, ellipse, parabola, hyperbola, a point, a straight line and a pair of intersecting lines as a degenerated case of a conic section	February	1
				Standard equations and simple properties of parabola, ellipse and hyperbola. Standard equation of a circle.		2

				Coordinate axes and coordinate planes in three dimensions.		3
				Coordinates of a point. Distance between two points.		4
	Resvision	9	12		March	1