Bhartiya Vidya Mandir Sen. Sec. School,Sector 39, Chandigarh Road, Ludhiana

CLASS - XI SYLLABUS – MATHS Session 2024-2025

BOOK: NCERT

Month	Unit/Chapter/Topic	Learning Objective	RESOURCES/ART-INTEGRATED Pedagogy Tools Used/E-RESOURCES		Learning Outcomes/Skills Learnt by Students
APRIL	SETS	Introduction to sets using examples from real life.Definition of different types of sets.Union and intersection of sets.Application of n(A U B) = n(A) + n(B) –n(A ∩ B).Representation of sets through Venn diagram and properits of the set.	Lecture Method	https://epathshala.nic.in/topic.php?id=11076CH01	Students will be able to identify and recognize sets and its roles in daily life &representsets in different forms•observe and analyse union and intersection of sets.represent sets diagramatically. applythe knowledge learnt in daily life.solve HOTS questions
	COMPLEX NUMBER	Complex number and algebra of complex number, Conjugate of the complex number,additive inverse, multiplicative inverse of complex number.Properties of the conjugate of complex number.Argand plane and modulus of complex number.	Lecture Method	https://epathshala.nic.in/topic.php?id=11076CH05	Students will be able to understand the need of these numbers.perform addition,subtraction, multiplication & division of complex numbers .familiarize with conjugate and multiplicative inverse of complex number.
MAY	LINEAR INEQUALITIES	Identify Inequalities in one variable and Represent them graphically.Applications of linear inequality problems in real life situations	Lecture Method	https://epathshala.nic.in/topic.php?id=11076CH06	Students willbe able to recall the concept of linear equations .familiarize about various inequalities i.e. >, ≥, <, ≤.distinguish equations and inequationsin one variable
	THREE DIMENSINAOL GEOMETERY	Points on axis,plane and octant. Distance formula in 3 d ,centroid of triangle and mid point formula	Lecture Method	https://epathshala.nic.in/topic.php?id=11076CH12	Students willbe able to use distance formula famliar with different type of octant.

JULY	**Trigonometric Functions**	Introduction, Angles, Trigonometric Functions, Trigonometric Functions of Sum and Difference of Two Angles	Lecture Method	https://epathshala.nic.in/topic.php?id=11076CH03	Students will be able to recall the terminology and concepts related to trigonometry.Describe circular system of measurement of angles,comprehend the concept of functions, domain and range. Observe and analyse sign in different trigonometric functions,appreciate the role of graph.Develop the skill to solve.
	Relations and Functions	Introduction, Cartesian Product of Sets, Relations, Functions Domain and range,Definition of different function	Lecture Method	https://epathshala.nic.in/topic.php?id=11076CH02	Students would be able to learn cartesian products of sets ,Ordered pair & Image , Domain & range ,Functions & its types After completion of chapter student will achieve following perspectives:Systematic behaviour (mapping with particular people with the help of any relation between them) i.e. ordered pair.
AUGUST	**Permutations and Combinations**	Introduction, Fundamental Principle of Counting, Permutations, Combinations and their daily use in life.	Discussion method	https://epathshala.nic.in/topic.php?id=11076CH07	Students will be able to learn about Fundamental Principle of Counting ,Permutations when all the objects are distinct or not .Meaning of Factorial ,Factorial Notation ,Derivation of the formula . Concept and application of Combinations in given situation

	Binomial Theorem	Introduction, Binomial Theorem for Positive Integral Indices	Lecture Method	https://epathshala.nic.in/topic.php?id=11076CH08	Students will be able to understand Pascal's triangle ,Binomial Theorem for Positive Integral Indices.
OCTOBER	**Statistics**	Introduction, Measures of Dispersion, Range, Mean Deviation, Variance and Standard Deviation	Lecture Method	https://epathshala.nic.in/topic.php?id=11076CH15	Students will be able to understand Measures of Dispersion ,Range , Mean Deviation ,Variance and Standard Deviation .After learning this chapter students will be able to. Interpretate and analyze the data
	Straight Lines	Introduction, Slope of a Line, Various Forms of the Equation of a Line, Distance of a Point From a Line	Lecture Method	https://epathshala.nic.in/topic.php?id=11076CH10	Students will be able to recall and understand Geometry with algebra.Know the concept of slope of a line , apply the formula to calculate the slope between two points in a plane.Apply the formula to find equation of lines
NOVEMBER	**Conic Sections**	Introduction, Sections of a Cone, Circle, Parabola, Ellipse, Hyperbola	Lecture cum Demonstration Method	https://epathshala.nic.in/topic.php?id=11076CH11	Students will be able to understand Sections of a Cone,Equation of Circle Definition, Focus, Latus rectum and directrix of parabola and Equation of Parabola . Definition, Major axis, minor axis, Focus, Latus rectum and directrix of Ellipse and its equation Definition, Transverse axis, Conjugate axis, Focus, Latus rectum and directrix of Hyperbola
	Limits and Derivatives	Introduction, , Limits, Limits of Trigonometric Functions, Derivatives with first	Lecture Method	https://epathshala.nic.in/topic.php?id=11076CH13	Students will be able to understand Algebra of limits ,Limits of polynomials and

		principle,product rule and quotient rule.			rational functions , Limits of Trigonometric Functions , Limits of Logarithmic and Exponential Functions . Algebra of derivative of functions,Derivative of the functions from first principle and Derivatives of functions
DECEMBER	**Probability**	Events, Sure and Impossible event,Mutually exclusive event and exhaustive event, Axiomatic Approach to Probability	Lecture Method	https://epathshala.nic.in/topic.php?id=11076CH16	Students will be able to understand Random experiments ,Outcomes and sample space ,Types of events , Algebra of events, Probability of an event
JANUARY	**Sequence and Series**	Introduction, Sequences, Series, Geometric Progression (G.P.), Relationship Between A.M. and G.M.	Lecture Method	https://epathshala.nic.in/topic.php?id=11076CH09	Students will be able to recall A.P studied earlier draw inference on the basis of various patterns and develop attitude to think, analyse and articulate logically. Mathematics used in daily life by taking examples from G.P