

CLASS – XII SUBJECT - MATHEMATICS				
MONTH	UNIT/CHAPTER/ TOPIC	PEDAGOGY TOOLS	E-CONTENT	LEARNING OUTCOMES
APRIL	MATRICES	Visual Manipulative, Graphic organizers and digital graphing platforms.	https://epathshala.nic.in/topic.php?id=12079CH03	Student will be able to familiarize with matrix, understand the type of matrix, perform operation like addition and multiplication, identify the example of symmetric and skew symmetric
	DETERMINANT	Geometric visualization, active problem-solving and interactive graphic tools.	https://epathshala.nic.in/topic.php?id=12079CH04	Students will be able to associate a number called determinant to square matrix, understand and apply determinants in finding out area of triangle. Evaluate Minors, Co-factors & finding Adjoint and inverse of a square matrix, identify consistent and inconsistent equations, develop ability to solve equations using matrix method .
	INVERSE TRIGONOMETRIC FUNCTIONS	Domain restriction, Graphical visualization and algebraic substitution.	https://epathshala.nic.in/topic.php?id=12079CH02	Students will be able to appreciate the need for principal value for a given inverse trigonometric function, comprehend the meaning of various inverse trigonometric formulae, finding suitable substitution to simplify. Students will be able to relate the domain and range of various trigonometric functions with principal value apply the various formulae connecting them
MAY	LINEAR PROGRAMMING PROBLEMS	Visual and Geometric tools, Algorithmic Frameworks, Technological Solvers.		Learning outcomes of linear programming include the ability to formulate real-world problems into mathematical models (objective functions and constraints), solve two-variable problems using graphical methods
JUNE	CONTINUITY & DERIVATIVE	Graphical Visualization, Flow chart and algebraic tools.	https://epathshala.nic.in/topic.php?id=12079CH05	Students will be able to analyze and find whether the given functions are continuous, differentiable at given points. Develop skills in finding derivatives of various functions like logarithmic functions, implicit functions etc. Comprehend the meaning Of second derivative.
	APPLICATION OF DERIVATIVE	Instructional aids and methodologies used to teach students how dynamic changes, rates and optimizations are calculated using calculus.	https://epathshala.nic.in/topic.php?id=12079CH06	Students will be able to comprehend the meaning of derivatives as rate of change of quantities, visualize increasing and decreasing functions graphically. find local maxima and local minima, analyze and apply first and second derivative test, critical points and points of inflection

AUGUST	INTEGRATION	Instructional frameworks and Digital applications	https://epathshala.nic.in/topic.php?id=12080CH07	Students will be able to recognize the integration formula as antiderivative. Evaluate the given by using suitable substitutions. Perform the integration after observing the given function and simplifying it by applying the trigonometric formula. Identify and arrange the given functions into these special integrals form and apply the formulae.
	APPLICATION OF INTEGRATION	Interactive Graphing, Physical modelling and Problem solving.	https://epathshala.nic.in/topic.php?id=12080CH08	Students will be able to appreciate the need of integration in finding area under the given curves. Visualize and shade the required region between a given line and a curve and find its area.
	DIFFERENTIAL EQUATION	Approach, Combining analytic, Graphical, Numerical and modelling tools.	https://epathshala.nic.in/topic.php?id=12080CH09	Students will be able to demonstrate the basic understanding of differential equation, select a suitable strategy and apply an appropriate method to obtain its solution
OCTOBER	VECTOR	Interactive simulations, Geometric modelling tools, Algebraic frameworks and Multimedia resources.	https://epathshala.nic.in/topic.php?id=12080CH10	Students will be able to create real life examples of vector and scalar quantities and understand properties of a vector. Appreciate the geometrical meaning of scalar product and cross product of two vectors. Translate the given situation into the corresponding scalar and cross product.
	THREE DIMENSIONAL	Physical manipulative, Dynamic digital software and Conceptual framework.	https://epathshala.nic.in/topic.php?id=12080CH11	Students will be able to explore the fundamentals behind D. R and D. C and able to apply them. Visualize lines, skew lines in space and find their equations using given data and transforming them to standard form.
	PROBABILITY	Physical Manipulative (The Frequentist Approach), Digital Tools & Simulations, Conceptual & Visual Organizers	https://epathshala.nic.in/topic.php?id=12080CH13	Students will be able to assimilate the concept of conditional probability as probability of an event when another event has already occurred. Appreciate Bayes theorem and the conditions necessary to apply it. Calculate mean after forming probability distribution.
	RELATION AND FUNCTION	Visual, Logical and interactive tools	https://epathshala.nic.in/topic.php?id=12079CH01	Students will be able to recall the concepts of function and types of relations, domain and range, justify whether the given relation is an equivalence relation or not, justify whether the given function is one-one, onto or not