साप्ताहिक विच्छेदित पाठ्यक्रम 2023-24					
CLASS - 12 SUBJECT - MATHS					
Month	**Week**	**Name of Chapter**	**Sub Topic**	**No. of periods (1 Period =45/40 mins)**	**Learning Outcome**
June 2023	1st, 2nd & 3rd	1. Relations & Functions	1.1) Introduction 1.2) Types of Relations 1.3) Types of Functions 1.4) Composition of Functions and Invertible Function	12	Able to I. Classify and recognize different types of relations and functions. II. Understand the bijectivity of function and relate it to find the inverse of bijective function. III. Find the composition of two function.
June 2023	4th (5 days)	2. Inverse Trigonometric Functions	2.1) Introduction 2.2) Basic Concepts	7	Able to I. Find out the domain and principal values of given inverse trigonometric function. II. Draw graph of inverse trigonometric functions.
June 2023	5th (3 days)	2. Inverse Trigonometric Functions	3.3) Properties of Inverse Trigonometric Functions	5	
July	1st (1 day)	3.Matrices	3.1) Introduction 3.2) Matrix	2	"Able to I. Find out order of a given matrix. II. Construct a matrix of different order. III. Recognize different types of Matrix. IV. Multiply a Matrix by a scalar and find negative of a matrix V. Add, Subtract and multiply two and more than two matrices. VI. Find the transpose of given matrix. VII. Verify and construct symmetric and skew symmetric Matrix.
July	2nd (6 days)	3.Matrices	3.3) Types of Matrices 3.4) Operations on Matrices	9	
July	3rd (5 days)	3.Matrices	3.5) Transpose of a Matrix 3.6) Symmetric and Skew Symmetric Matrices 3.7) Invertible Matrices	8	

July	4th (6 days)	4. Determinants	4.1) Introduction 4.2) Determinant 4.3) Area of a Triangle 4.4) Minors and Cofactors	9	Able to I. Distinguish between matrix and Determinant. II. Evaluate the determinant of a square matrix of different order (up to 3X3 order matrix) III. Use the concept of determinant to find out the area of a triangle, equation of a line passing through two points and to verify collinearity of three points. IV. Write minors and cofactors of the elements of a determinant. V. Find the adjoint and inverse of a matrix using minors and cofactors. VI. Use concept of determinant and matrix to solve daily life problems.
July	5th (5 days)	4. Determinants	4.5) Adjoint and Inverse of a Matrix 4.6) Applications of Determinants and Matrices	8	
August	1st (5 days)	5. Continuity and Differentiability	5.1) Introduction 5.2) Continuity	7	Able to I. Define the continuity of a function. II. Examine the continuity of a function at a point and in interval. III. Use the concept of composition of a function to examine the continuity of a function. IV. Discuss the continuity of a function through graph. V. Use algebra of continuous function. VI. Establish the relationship between continuity and differentiability . VII. Examine the differentiability of a function at a point. VIII. Find derivative of composite function by applying chain rule. IX. Find the derivative of an implicit and explicit function. X. Find the derivative of inverse trigonometric function. XI. Apply the concept of logarithmics to find the derivative of exponential function. XII. Evaluate derivatives of function in parametric form. XIII. Find the second order derivatives of a given function.
August	2nd (5 days)	5. Continuity and Differentiability	5.3) Differentiability	7	
August	3rd (4 days)	5. Continuity and Differentiability	5.4) Exponential and Logarithmic Functions	6	
August	4th (5 days)	5. Continuity and Differentiability	5.5) Logarithmic Differentiation 5.6) Derivatives of Functions in parametric Forms 5.7) Second Order Derivative	8	

August	5th (3 days)	6.Application of Derivatives	6.1) Introduction 6.2) Rate of change of Quantities	5	Able to I. Find rate of change of quantities with respect to different quantities. II. Classify increasing and decreasing function and to find the intervals in which function is Increasing or Decreasing. III. Find maximum and minimum values of a given function. IV. Solve daily life problems.
September	1st (2 days)	6.Application of Derivatives	6.3) Increasing and Decreasing Functions	3	
September	2nd (5 days)	6.Application of Derivatives	6.3) Increasing and Decreasing Functions 6.4) Maxima and Minima	8	
September	3rd (5 days)	7. Integrals	7.1) Introduction 7.2) Integration as an Inverse process of Differentiation	7	Able to I. Establish the relationship between differentiation and integration of function and conclude that integration is the inverse process of differentiation. II. Find the antiderivative or integrals of a function by the method of inspection. III. Interprete indefinite integral geometrically . IV. Use properties of indefinite integral to evaluate the given integrals. V. Integrate the given function by using the method of substitution, partial fraction and by parts. VI. Evaluate integrals of some particular function i.e. special integrals. VII. Use second fundamental theorem of integral calculus to evaluate the given definite integral. VIII. Evaluate definite integral by substitution. IX. Use the property of definite integrals in evaluation the definite
September	4th (4 days)	7. Integrals	7.3) Methods of Integration 7.4) Integrals of some particular functions	6	
September	5th (3 days)	7. Integrals	7.5) Integration by partial functions 7.6) Integration by parts 7.7) Definite Integrals	5	
October	1st (4 days)	7. Integrals	7.8) Fundamental Theorem of calculus 7.9) Evaluation of definite Integrals by Substitution	6	
October	2nd (6 days)	7. Integrals 8. Application of Integrals	7.10) Some properties of Definite Integrals. 8.1) Introduction 8.2) Area under simple curves	9	Able to I. Apply the concept of definite integrals to find area under simple curve II. Calculate area of the region bounded by a curve and a line. III. Find area between two curves

October	3rd (4 days)	9. Differential Equations	9.1) Introduction 9.2) Basic Concepts	6	Able to I. Define differential equations. II. Find order and degree of differential equation. III. Solve first order first degree differential equation by variable seperable. IV. Solve Homogeneous differential equation. V. Solve linear differential equation.
October	4th (3 days)	9. Differential Equations	9.3) General and particular solutions of a differential equation 9.4) Methods of solving first order, first degree differential equations	5	
October	5th(2 days)	10. Vector Algebra	10.1) Introduction 10.2) Some basic concept	3	Able to I. Define Vectors. II. Recognise vector quantity in our daily life activity. III. Find out position vector of a point. IV. Find and relate direction cosine or direction ratios of a vector. V. Classify different type of vectors VI. Add two vectors, multiply any vector by a scalar. VII. Write a vector in compound form. VIII. Find unit vector along a given vector. IX. Find vector joining two given points. X. Use section formulae to find the position vector of a point. XI. Apply concept of vector two verify that three given points are collinear or vertices of right angled triangle. XII. Define dot product of two vectors and use it to solve different type of problems. XIII. Explore the concept of cross product of two vectors in solving different type of problems. XIV. Apply concept of product of vectors in solving various geometrical problems.
November	1st & 2nd (5 days)	10. Vector Algebra	10.3) Types of vectors 10.4) Addition of vectors 10.5) Multiplication of a vector by a scalar 10.6) Product of two vectors	7	
November	3rd & 4th (6 days)	11. Three dimensional Geometry	11.3) Equation of a line in space 11.4) Angle between two lines	9	Able to I. Recall the concept of three dimensional geometry. II. Determine the direction cosine and direction ratios of a line.

November	5th (3 days)	11. Three dimensional Geometry	11.5) Shortest Distance between two lines	5	III. Formulate the equation of line in space under given conditions. IV. Convert vector form to cartesian form of a line and vice-versa. V. Find angle between two given lines. VI. Calculate shortest distance between two skew lines and parallel lines.
December	1st (2 days)	11. Three dimensional Geometry	11.5) Shortest Distance between two lines	3	
December	2nd (6 days)	12. Linear Programming	12.1) Introduction 12.2) Linear Programming problem and its mathematical formulation	9	Able to I. Know linear programming problem. II. Formulate linear programming problems from daily life activity. III. Solve linear programming problem graphically.
December	3rd (5 days)	13. Probability	13.1) Introduction 13.2) Conditional Probability	8	Able to I. Calculate probability of an event if probability of another event is given when both the events are of same sample space. II. Solve various real life problems using the concept of conditional probability. III. Understand multiplication theorem of probability and independent events. IV. Solve the problem of finding reverse probability by using conditional. probability V. Understand Baye's theorem and use it to solve day to day life problems.
December	4th (6 days)	13. Probability	13.3) Multiplication Theorem on probability 13.4) Independent Events 13.5) Baye's Theorem	9	
January, February till board examination		Revision & Test			