Public School

BLOOM PUBLIC SCHOOL

C-8 Vasant Kunj, New Delhi

Syllabus for the Session 2023-24

Class: XII

Subject: MATHEMATICS

	SYLLABUS		
MONTH	CHAPTER (NCERT Text book)	CONTENT	
April	Chapter 4: Determinants	Determinant of a square matrix (up to 3 x 3 matrices), minors, co-factors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of system of linear equations by examples, solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix.	
	Chapter 1: Relation and Functions	Types of relations: reflexive, symmetric, transitive and equivalence relations. One to one and onto functions.	
	Chapter 2: Inverse Trigonometric Functions	Definition, range, domain, principal value branch. Graphs of inverse trigonometric functions.	
May	Chapter 5: Continuity and Differentiability	Continuity and differentiability, chain rule, derivative of inverse trigonometric functions, $like \sin^{-1} x$, $\cos^{-1} x$ and $\tan^{-1} x$, derivative of implicit functions. Concept of exponential and logarithmic functions. Derivatives of logarithmic and exponential functions. Logarithmic differentiation, derivative of functions expressed in parametric forms. Second order derivatives.	
	Chapter 6: Applications of Derivatives	Applications of derivatives: rate of change of quantities, increasing/decreasing functions, maxima and minima (first derivative test motivated geometrically and second derivative test given as a provable tool). Simple problems (that illustrate basic principles and understanding of the subject as well as real life situations).	
July	Chapter 7: Integrals	Integration as inverse process of differentiation. Integration of a variety of functions by substitution, by partial fractions and by parts, Evaluation of simple integrals of the following types and problems based on them.	

	Chapter 8: Applications of the Integrals	$\int \frac{dx}{x^2 \pm a^2} \int \frac{dx}{\sqrt{x^2 \pm a^2}}, \int \frac{dx}{\sqrt{a^2 - x^2}}, \int \frac{dx}{ax^2 + bx + c}, \int \frac{dx}{\sqrt{ax^2 + bx + c}}$ $\int \frac{px + q}{ax^2 + bx + c} dx, \int \frac{px + q}{\sqrt{ax^2 + bx + c}} dx, \int \sqrt{a^2 \pm x^2} dx, \int \sqrt{x^2 - a^2} dx$ Fundamental Theorem of Calculus (without proof). Basic properties of definite integrals and evaluation of definite integrals. Applications in finding the area under simple curves, especially lines, circles/ parabolas/ellipses (in standard form only)
August	Chapter 9: Differential Equations Chapter 10: Vectors	Definition, order and degree, general and particular solutions of a differential equation. Solution of differential equations by method of separation of variables, solutions of homogeneous differential equations of first order and first degree. Solutions of linear differential equation of the type: dy/dx + py = q, where p and q are functions of x or constants. dx /dy + px = q, where p and q are functions of y or constants. Vectors and scalars, magnitude and direction of a vector. Direction cosines and direction ratios of a vector. Types of vectors (equal, unit, zero, parallel and collinear vectors), position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of a vector by a scalar, position vector of a point dividing a line segment in a given ratio. Definition, Geometrical Interpretation, properties and application of scalar (dot) product of vectors, vector (cross) product of vectors.
September	Chapter 11: Three - dimensional Geometry	Direction cosines and direction ratios of a line joining two points. Cartesian equation and vector equation of a line, skew lines, shortest distance between two lines. Angle between two lines.
October	Chapter 12: Linear Programming	Introduction, related terminology such as constraints, objective function, optimization, graphical method of solution for problems in two variables, feasible and infeasible regions (bounded or unbounded), feasible and infeasible solutions, optimal feasible solutions (up to three non-trivial constraints).
	Chapter 13: Probability	Conditional probability, multiplication theorem on probability, independent events, total probability, Bayes'

		theorem, Random variable and its probability distribution,
	<u> </u>	mean of random variable.
November	Revision	Chapter wise revision
	Pre-Board Exam	Sample papers & Previous years Board Exam papers
December	Revision	Remedial classes
December	Pre-Board Exam	Refrictial classes
January	Revision	Remedial classes
February	Revision	Remedial classes
March	Board Exams	
	AS	SESSMENT SYLLABUS
PERIODIC	ASSESSMENT -1	Chapter 2: Inverse Trigonometric Functions
		Chapter 3: Matrices
		Chapter 4: Determinants
PERIODIC ASSESSMENT -2		Chapter 1: Relation and Functions
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		Chapter 6: Applications of Derivatives
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	AAM	Chapter 1: Relation and Functions
		Chapter 2: Inverse Trigonometric Functions
		Chapter 3: Matrices
		Chapter 4: Determinants
		Chapter 5: Continuity and Differentiability
		Chapter 6: Applications of Derivatives
		Chapter 7: Integrals
		Chapter 8: Applications of the Integrals
		Chapter 9: Differential Equations
PRE-BOAR	D EXAM	Chapter 1: Relation and Functions
		Chapter 2: Inverse Trigonometric Functions
		Chapter 3: Matrices
		Chapter 4: Determinants
		Chapter 5: Continuity and Differentiability
		Chapter 6: Applications of Derivatives
		Chapter 7: Integrals
		Chapter 8: Applications of the Integrals
		Chapter 9: Differential Equations Chapter
		10: Vectors
		Chapter 11: Three - dimensional Geometry
		Chapter 12: Linear Programming
		Chapter 13: Probability
BOARD EX	AM	Chapter 1: Relation and Functions
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Chapter 3: Matrices
Chapter 4: Determinants
Chapter 5: Continuity and Differentiability
Chapter 6: Applications of Derivatives
Chapter 7: Integrals
Chapter 8: Applications of the Integrals
Chapter 9: Differential Equations
Chapter 10: Vectors
Chapter 11: Three - dimensional Geometry
Chapter 12: Linear Programming
Chapter 13: Probability