

ARMY PUBLIC SCHOOL, BANGALORE
SPLIT UP SYLLABUS 2024-25

CLASS - XII
SUBJECT- MATHEMATICS

SL. NO.	MONTH & WORKING DAYS	CONTENT
1.	APRIL, 13 DAYS	<p>RELATIONS AND FUNCTIONS: Relations-Types of relations: reflexive, symmetric, transitive, equivalence relations, and equivalence class. Functions-One-to-one and onto functions.</p> <p>INVERSE TRIGONOMETRIC FUNCTIONS: Definition, range, domain, principal value branch of inverse trigonometric functions and their graphs.</p> <p>DIFFERENTIATION: Continuity and differentiability, chain rule, derivatives of inverse trigonometric, implicit functions. Concept of exponential and logarithmic functions. Derivatives of logarithmic and exponential functions. Logarithmic differentiation.</p>
2.	JUNE, 16 DAYS	<p>DIFFERENTIATION(Contd): Parametric differentiation, and Second order derivatives.</p> <p>APPLICATION OF DIFFERENTIATION: Rate of change of quantities, increasing/decreasing functions, maxima and minima.</p> <p>INTEGRATION: Integration as the inverse process of differentiation.</p>
3.	JULY, 25 DAYS	<p>INTEGRATION(Contd): Integration using the method of substitution, partial fractions, and by parts. Fundamental Theorem of Calculus (without proof). Basic properties of definite integrals and evaluation of definite integrals.</p> <p>APPLICATION OF INTEGRATION: Applications in finding the area under simple curves, especially lines, circles/ parabolas/ellipses.</p>

4.	AUG, 23 DAYS	<p>DIFFERENTIAL EQUATIONS: Definition, order, and degree, general and particular solutions of a differential equation. Variable separable method, solutions of homogeneous differential equations and linear differential equations.</p> <p>VECTORS: Magnitude and direction of a vector. Direction cosines and direction ratios of a vector. Types of vectors, operations on vectors. Product of vectors: Definition, Geometrical Interpretation and properties.</p> <p>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. The angle between two lines.</p>
5.	SEPT, 21 DAYS	<p>LINEAR PROGRAMMING PROBLEM: 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).</p> <p>PROBABILITY: Conditional probability, multiplication theorem on probability, independent events, total probability, Bayes' theorem, Random variable and its probability distribution, mean of random variable.</p>
6.	OCT, 15 DAYS	<p>MATRICES: Concept, notation, order, equality, types of matrices. Operations on matrices. Simple properties of addition, multiplication and scalar multiplication. Invertible matrices and proof of the uniqueness of inverse.</p> <p>DETERMINANTS: Determinant of a square matrix, 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 and Matrix method.</p>

7.	NOV, 21 DAYS	REVISION FOR PREBOARD I
8.	DEC, 17 DAYS	REVISION FOR PREBOARD II
9.	JAN, 24 DAYS	REVISION FOR PREBOARD III
10.	FEB, 22 DAYS	BOARD EXAMINATIONS
11.	MARCH, 23 DAYS	BOARD EXAMINATIONS

BOOKS:NCERT TEXTBOOK AND NCERT EXEMPLAR TEXTBOOK

REFERENCE: R D SHARMA,