

DAV Public Schools, Ranchi Zone
Syllabus of Class XII (Maths) 2017-18

SNo.	CHAPTERS	No. Of periods/Months
1.	MATRICES AND DETERMINANTS :- Matrix, Types of Matrices, Addition ,Multiplication and Scalar multiplication of matrices, Transpose of matrix, Symmetric and Skew- Symmetric matrix Invertible matrix , Elementary Operations, Determinants of a square matrix, Singular matrix and non- singular matrix, properties of determinants ,minors ,cofactors, application of determinants, Adjoint and inverse of a square matrix, Consistency , inconsistency and solutions of system of linear equation by matrix method .	20/ APRIL
2.	RELATIONS AND FUNCTIONS:- Definition and types of relations : reflexive, symmetric, antisymmetric, Transitive and equivalence relations, equivalence classes Functions and types of functions Composition of two functions ,inverse of functions ,Binary operations .Domain and range of inverse trigonometric functions ,principal value branches. Solution of inverse trigonometric functions.	12/ APRIL- MAY
3.	CONTINUITY AND DIFFERENTIABILITY :- Continuity and differentiability, derivative of composite functions, derivative of inverse trigonometric functions derivative of implicit function, derivative of exponential and logarithmic functions, derivatives of parametric function ,derivative of one function with respect to other function, Rolle's and Langrange's Mean value theorems and their geometrical interpretation, Higher order derivatives (2 nd order derivatives)	12/ MAY-JUNE
4.	APPLICATIONS OF DERIVATIVES:- Rate of change of Quantities, increasing and decreasing functions, tangent and normals ,use of derivatives in approximation, Maxima and Minima .	12/ JULY
5.	VECTOR AND 3- DIMENSIONAL GEOMETRY:- Vector and scalar, Algebra of vector, Dot and Cross product of two vectors,scalar triple product. Direction ratios and Direction cosines, Cartesian and vector equations of line, Shortest distance of two skew lines, angle between two lines, Cartesian and vector equation of plane, angle between two planes , angle between plane and lines , distance between two parallel planes ,distance from a point to the plane.Co-planarity of two lines.	20/ JULY-AUG

6.	PROBABILITY :- Conditional probability ,multiplication theorem on probability, independent events, Total probability,Baye's theorem ,Random variable and its probability distribution , Mean and variance of random variable .Bernoulli trials and Binomial distribution.	12/AUG
	Revision of S.A 1 From second week of September	
7.	INDEFINITE INTEGRALS:- Method of integration, integrations of function by substitution, by partial ,by parts, integration of rational and irrational functions, integration in the following forms : 1. $\frac{1}{ax^2+bx+c}$, $\frac{px+q}{ax^2+bx+c}$, $\frac{(px+q)}{\sqrt{ax^2+bx+c}}$, $\frac{1}{\sqrt{ax^2+bx+c}}$ 2. $\sqrt{ax^2 + bx + c}$ 3. $(px+q)\sqrt{ax^2 + bx + c}$, $(px + q)(ax^2 + bx + c)$ 4. $\frac{x^2+1}{x^4+kx^2+1}$, $\frac{x^2-1}{x^4-kx^2+1}$ 5. $\sqrt{a^2 \pm x^2}$, $\sqrt{x^2 - a^2}$, $\frac{1}{x^2 \pm a^2}$, $\frac{1}{\sqrt{x^2 \pm a^2}}$, $\frac{1}{\sqrt{a^2 - x^2}}$ To be evaluated	15/OCT
8.	DEFINITE INTEGRAL :- Definite integral as a limit of a sum , Fundamental theorem of calculus ,Basic properties of definite integrals and evaluation .	8/ october
9.	APPLICATION OF THE INTEGRALS :- Application in finding the area of simple curves , Area between two curves (region should be clearly identifiable).	04/ OCTOBER
10.	DIFFERENTIAL EQUATIONS :- Definition, order and degree, Formation of differential equation , General solution and particular solution , Solution of differential equation by method of separation of variables, Homogeneous differential equation ,Solution of linear differential equation of type $\frac{dy}{dx} + Py = Q$, where P and Q are functions of x or constants and $\frac{dx}{dy} + Px = Q$ where P and Q are functions of y or constants.	09/ November
11.	LINEAR PROGRAMMING:- Introduction ,Graphical method of solution for problem in two variables (Diet problems ,Manufacturing problems ,Transportation problems, Allocation problems)	06/ NOVEMBER
	REVISION OF WHOLE SYLLABUS FROM 1ST WEEK OF DECEMBER	

BLUE PRINT OF FIRST SUMMATIVE EXAMINATION**CLASS XII - MATHEMATICS (2017-18)**

SNo.	CHAPTERS	1 MARK (VSA)	2 MARKS (SA)	4 MARKS	6 MARKS	TOTAL/NO. OF QUESTIONS
1.	Matrices and Determinants	1	2	2(OR)	1	19(6)
2.	Relation and function Binary operation	-	1	2	1	16(4)
3.	Inverse Trigonometric Function	1	1	1	-	7(3)
4.	Continuity and Differentiation	-	1	1	-	6(2)
5.	Application of derivatives	-	1	2 (OR)	1(OR)	16(4)
6.	Probability	1	1	1	1(OR)	13(4)
7.	Vectors	1	-	1	-	05(2)
8.	3-D	-	1	1(OR)	2(OR)	18(4)
	TOTAL	04	08	11	06	100(29)