DAV Public Schools, Ranchi Zone
Syllabus of Class XII (Maths) 2016-17

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 number of solutions of system of linear equation .	20/ APRIL
2.	**RELATIONS AND FUNCTIONS:-** Definition and types of relations : reflexive, symmetric, 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 function ,principal value branches. Solution of inverse trigonometric functions.	12/ APRIL- MAY
3.	**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 from a point to the plane. Coplanarity of two lines.	12/ MAY-JUNE
4.	**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 , Rolle's and Langrange's Mean value theorems and their geometrical interpretation, Higher order derivatives.	12/ JULY
5.	**APPLICATIONS OF DERIVATIVES:-** Rate of change of Quantities, increasing and decreasing functions, tangent and normal ,use of derivatives in approximation, Maxima and Minima .	12/ JULY
6.	**INDEFINITE INTEGRALS:-** Methods of integration, integrations of function by substitution, by partial ,by parts, integration of rational and irrational functions, integration in form 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. $(px+q)\sqrt{ax^2+bx+c}$	20/ AUGUST

	3. $\frac{x^2+1}{x^4+kx^2+1}, \frac{x^2-1}{x^4-kx^2+1}$ 4. $\sqrt{a^2 \pm x^2}, \sqrt{x^2-a^2}, \frac{1}{x^2 \pm a^2}, \frac{1}{\sqrt{x^2 \pm a^2}}, \frac{1}{\sqrt{a^2-x^2}}$ to be evaluated .	
	Revision of S.A 1 From second week of September	
7.	**DEFINITE INTEGRAL :-**Definite integral as a limit of a sum , Fundamental theorem of calculus ,Basic properties of definite integrals and evaluation .	10/ october
8.	**APPLICATION OF THE INTEGRALS :-**Application in finding the area of simple curves , Area between two curves (region should be clearly identifiable).	04/ OCTOBER
9.	**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/ OCTOBER- November
10.	**LINEAR PROGRAMMING AND PROBABILITY :-** Introduction ,Graphical method of solution for problem in two variables (Diet problem ,Manufacturing problem ,Transportation problem) 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/ NOVEMBER
	REVISION OF SA-2 FROM 1ST WEEK OF DECEMBER	

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SNo.	CHAPTERS	1 MARK (VSA)	4 MARKS (SA)	6 MARKS (LA)	TOTAL
1.	Matrices and Determinants	2	2	1	16
2.	Relation and function B.O	1	1	1	11
3.	Inverse Trigonometric Function	1	1	-	5
4.	Continuity and Differentiation	-	3	-	12
5.	Application of derivatives	-	2	2	20
6.	Indefinte integral	1	2	1	15
7.	Vector and 3 -D	1	2	2	21
	TOTAL	06	13	07	100

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MATHEMATICS (041) CLASS –XII (2016-17) AS PER C.B.S.E

S.No.	Topics	VSA(1)	SA(4)	LA(1)	Total
1	Relation, Function and binary operation	-	-	6(1)	6(1)
2	Inverse trigonometric Functions	-	4(1)*	-	4(1)
3	Matrices and Determinants	1(1)	12(3)	-	13(4)
4	Continuity and Differentiability	-	8(2)*	-	8(2)
5	Application of Derivatives	-	4(1)	6(1)	10(2)
6	Integration	-	12(3)*	-	12(3)
7	Application of Integrals	-	-	6(1)*	6(1)
8	Differential Equations	2(2)	-	6(1)*	8(3)
9	Vectors	2(2)	4(1)	-	6(3)
10	3- Dimensional Geometry	1(1)	4(1)	6(1)	11(3)
11	Linear Programming	-	-	6(1)	6(1)
12	Probability	-	4(1)*	6(1)	10(2)
	Total	6(6)	52(13)	42(7)	100(26)

*Means a question with an alternative