

PVCNSSK GOVT POLYTECHNIC BILASPUR at KALOL

PLANNED SYLLABUS COVERAGE

GPB		Department : Applied Sciences & Humanities.		Subject : Mathematics-II		
		Course : Diploma in Electrical/Mechanical Engg.		Duration : 3 years		
SYLLABUS COVERAGE		Total Periods : 70		Theory : 70		
		Course Start Date: 27/01/2025		Practical :		
				Course End Date: 28/05/2025		
Sr No	Period Nos	Topic	Details	Instruction Reference	Additional Study Recommended	REMARKS
1.	1-6	ALGEBRA Determinants & Matrices	<p>(1.1) Determinants:</p> <p>Definition, Value of determinant of the order of 2×2, Minors, Co-factors and De-Laplace's expansion Problems related to these. Properties of determinants up to 3rd order, applications of det. in solving a system of linear equations by Cramer's rule .consistency of equations. Problems related to the above topics.</p>	Applied Mathematics, Eagle Prakashan	<p>Elementary Engineering Mathematics by BS Grewal</p> <p>Engineering mathematics by Reena Garg</p>	
2.	7-15		<p>(1.2) Matrix: Definition , type of matrix, Algebra of matrices, Ad joint of a matrix, properties of Ad joints .Inverse of a matrix, properties of inverse, matrix inversion method to solve a system of linear equations in 3 variables, Problems related to above topics.</p>			
3.	16-20	INDEFINITE INTEGRATION	<p>(2.1) INTEGRATION BY DECOMPOSITION OF THE INTEGRAND:</p> <p>Def, fundamental integrals ,theorems and Problems.</p>			
4.	21-25		<p>(2.2) INTEGRATION BY SUBSTITUTION: Method of substitution some standard integral, and its reducible form, Some special methods of integrating trigonometric functions. PROBLEMS</p>			
5.	26-30		<p>(2.3) INTEGRATION BY PARTS AND BY PARTIAL FRACTION:</p> <p>Integration by parts Three standard Integrals, reducible form, Integration by partial fractions (linear factors only)</p>			

6.	31-40	DEFINITE INTEGRATION	(2.4) DEFINITE INTEGRALS : Definite integral, Standard formulae as per syllabus (simple problems) Area under the curve, Volume enclosed by rectilinear fig when revolve about axes Related Problem.		
7.	41-45	Coordinate Geometry	(3.1) Straight Line Equation of straight line in various standard forms .Intersection of two straight lines, Angle between two lines. Parallel and perpendicular lines .Perpendicular distance formula .Problems related to these topics		
8	46-50		(3.2) Circles Definition, Different type of circle Problems related to circle Equation of circle passing through the three points. Problems related to these topics		
9	51-60		(3.3) Conics : Definition of conics (PARABOLA, ELLIPSE, HYPERBOLA) their standard forms. Problems on conics when their foci, directrices, vertices are given.		
10	61-70	DIFFERENTIAL EQUATIONS	(4.1) Differential Equations : Solution of first order and first degree differential equation by variable separation method (simple problems)		

Assignments:

Assignment serial	Contents of syllabus covered	Proposed date	Actual date	Remarks
A-I	Determinants & Matrices	01/02/2025		
A-II	Coordinate Geometry	01/03/2025		
A-III	Integral calculus	01/04/2025		

House Test / Class Test I & II

House/Class Test	Contents of syllabus covered	Proposed date	Actual date	Remarks
CT-I	30% of the syllabus	3rd week of March, 2025,		
CT-II	Next 30% of the syllabus	3rd week of April, 2025		
House Test	80% of the syllabus	2nd week of May, 2025		

Teacher's signature

PRINCIPAL/HOD