

"PVC" NSSK Govt. Polytechnic Bilaspur at Kalol

Lesson Planning (Theory)

Semester - 2nd

Session: Feb-June, 2023

Branch: Mech. Engg.

Subject: Mathematics-II

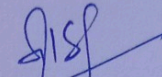
Teacher: Dr. Shabnam Sharma

S. No.	Period No.	Topic	Detail of Contents	Instruction Reference	Additional Study Recommended	Remarks
1	,1-6	Algebra	(1.1) Determinants .: Definition, Value of Det. Of order 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 Crammers, Rule, Consistency of equations.	Applied Mathematics Eagle Prakashan	Elementary Engineering Mathematics by BS Grewal	
2	,7-15	Algebra	(1.2) Matrix : Definition, Type of matrix, Algebra of matrices, Adjoint of a Matrix, properties od adjoints, Inverse of a matrix, Properties of inverse, Matrix inversion, method to solve a system of linear equations in 3 variables		Engineering mathematics by Reena Garg	
3	,16-20	Co-ordinate Geometry	(2.1) Striaight Lines :Equations of straight line in various standard forms (without proof), intersection of two straight lines, angle between two lines, Parallel and perpendicular lines, perpendicular distance formula			
4	,21-25	Co-ordinate Geometry	(2.2) Circles : General equation of a circle and its characteristics. To find the equation of a circle, given: * Centre and radius* Three points lying on it * Coordinates of end points of a diameter;			
5	,26-30	Co-ordinate Geometry	(2.3) Conics : (Parabola, Ellipse, Hyperbola) their standard Equations without proof. Problems on conics when their foci, directrices and vertices are given.			
6	,31-40	Indefinite Integration	(3.1) Integration by Decomposition of the Integrand : Definition, Fundamental integrals, theorems and problems.			
7	,41-45	Indefinite Integration	(3.2) Integration by Substitution : Method of substitution some standard integrals, and its reducible form, Some special methods of integrating trigonometric functions.			
8	,46-50	Indefinite Integration	(3.3) Integration By Parts and Partial Fraction : Integration by parts, reducibla form, integration by partial fractions(linear factors only)			
9	,51-60	Definite Integration	(3.4) Definite Integrals : Definite Integrals, Standard Formulae , Area under the curve, Volume enclosed by rectilinear fig when revolve about axes			

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10	,61-70	Differential Equations	(4.1) Differential Equations: Solution of first order and first degree differential equation by variable separation method			
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