

GOVERNMENT POLYTECHNIC, GAJAPATI
Department of Mathematics&Science

Academic Lesson Plan for 2nd Semester - 2026 (Summer)

Subject: Mathematics-II(Th.3)(Credit-4)

Name of the teaching faculty- G.KARTIK, Guest Lecturer (Mathematics)

Semester from date: 09/01/2026 to 08/05/2026	No. of periods per week: 4 No. of weeks: 15 Total periods: 60	Internal Exam. : 30 Marks End Semester Exam.: 70 Marks Total Marks: 100 Marks
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WEEK	CLASS DAY	THEORY/PRACTICAL TOPICS
1ST	1ST	Determinants: Introduction, 2x2 determinant
	2ND	Properties of determinants
	3RD	3x3 determinant,
	4TH	Expansion Of Examples
2ND	1ST	Cramer's Rule, solving 2x2 system
	2ND	Matrix algebra: introduction
	3RD	Matrix operations
	4TH	Matrix inverse
3RD	1ST	Matrix inverse, 3x3 matrix inverse
	2ND	Solving system of linear equations
	3RD	Consistency of equations
	4TH	Examples of inverse matrix
4TH	1ST	Integration: introduction
	2ND	Derivative and anti derivative
	3RD	basic formulas Substitution method
	4TH	Integration by parts
5TH	1ST	Examples of integration
	2ND	Partial fractions, linear factors
	3RD	Integration problems
	4TH	Area under curves
6TH	1ST	Volume of solids
	2ND	Co-ordinate Geometry: lines
	3RD	Standard forms of lines
	4TH	Intersection of lines
7TH	1ST	Angle between lines
	2ND	Parallel and perpendicular lines
	3RD	Perpendicular distance formula
	4TH	Circle equation
8TH	1ST	Centre and radius
	2ND	Circle problems
	3RD	Conics: introduction
	4TH	Parabola, ellipse, hyperbola
9TH	1ST	Standard equations
	2ND	Conic problems
	3RD	Vector algebra: introduction
	4TH	Vector operations
10TH	1ST	Scalar product

	2ND	Vector product
	3RD	Work, moment, angular velocity
	4TH	Examples of Vector product
11TH	1ST	Differential equations
	2ND	1- order differential equations
	3RD	Variable separation
	4TH	Solution of first order and first degree differential equation by variable separation method
12TH	1ST	Examples of 1- order differential equations
	2ND	MATLAB introduction
	3RD	MATLAB basics
	4TH	Plotting in MATLAB
13TH	1ST	Matrix operations in MATLAB
	2ND	Solving equations in MATLAB
	3RD	Solving equations in MATLAB
	4TH	Review of determinants
14TH	1ST	Review of matrix
	2ND	Review of integration
	3RD	Review of Derivative and anti derivative
	4TH	Review of integration
15TH	1ST	Review of Integration by parts
	2ND	Review of Co-ordinate Geometry
	3RD	Practice problems
	4TH	Practice problems