LESSON PLAN OF APPL. MATH.-II FOR THE ACADEMIC SESSION: 2025-26 (SUM-2026)

Discipline : COMMON			Semester : 2ND	Name of the Teaching Faculty : PRAGYAN PRIYADARSINI Lecturer(Math) STAGE-I, Govt. Polytechnic, Jajpur. THEORY	
Subject : MATH-II			From date: 09/01/2026 to 08/05/2026 No.of weeks:-15(excluding holidays)		
WEEK	No.of classes/week	CHAPTER		THEORY	NO.OF PERIODS
1ST	1ST	Integral Calculus UNIT-II		Integration as inverse operation of differentiation, formulae illustrative examples.	1
	2ND			Simple integration by substitution, Illustrative examples	1
	3RD			Integration By- Parts, Illustrative examples	1
	4TH			Integration by partial fractions, Illustrative examples.	1
2ND	1ST			Definite Integration, Properties of Definite Integration, Illustrative examples.	1
	2ND			Use of Walli's Integral Formula, Illustrative examples	1
	3RD			Area bounded by coordinate axes, illustrative examples	1
	4TH			Area enclosed by circle, ellipse illustrative examples	1
3RD	1ST			Calculation of volumr of a solid formed by revolution of an area about axes	1
	2ND			Continue	1
	3RD			Continue	1
	4TH			Exercise Problem discussion	1
4TH	1ST	Co-Ordinate Geometry UNIT-III		Concept of Co-ordinate Geometry, Cartesian Co-Ordinate System, Straight Lines, Vertical Line, Horizontal line , perpendicular lines, Parallel Lines, Coincident Lines.	1
	2ND			Slope of Lines, Equation Straight Line in Various Standard Forms, Illustrative examples	1
	3RD			Perpendicular distance of a point from a line, Distance between two parallel lines, Illustrative examples.	1
	4TH			Concept of Circle, General equation of circle, Equqtion of a circle through three given points	1
5TH	1ST			Continue, Illustrative examples	1

	2ND		Conic Sections, General Equation of Conic	1
	3RD		Parabola, Standard Equation of parabola, vertex, Focus, Directrix, eccentricity and some important terms.	1
	4TH		Hyperbola, Foci, Directrices, eccentricity, Illustrative examples	1
6TH	1ST		Ellipse, standard equation, vertices, directrices, major axis, minor axis, principal axes, centre, latus rectum , focal radii, eccentricity.	1
	2ND		Continue,	1
	3RD		Problem discussion	1
	4TH		Problem discussion	1
7TH	1ST	Determinants & Matrices UNIT-I	Definition of Matrix, Types of Matrices, Orthogonal Matrix, Symmetric and Skew symmetric Matrix	1
	2ND		Continue Determinant of square matrix, Singular and Non-singular Matrix.	1
	3RD		Algebra of Matrices(Addition, subtraction, multiplication) and properties, Transpose of Matrix and properties	1
	4TH		Continue	1
8TH	1ST		Minors, Cofactors, Adjoint of a square Matrix	1
	2ND		Inverse of a square Matrix , Illustrative examples	1
	3RD		Matrix method, Illustrative examples.	1
	4TH		Problem discussion	1
9TH	1ST		Introduction to Determinant, Properties of Determinant , Illustrative examples	1
	2ND		Continue	1
	3RD		Cramer's Rule, Illustrative examples	1
	4TH		Problem Discussion	1
10TH	1ST		Problem Discussion	1
	2ND		Problem Discussion	1
	3RD		Consistency of equations, Illustrative examples	1
	4TH		Problem Discussion	1
11TH	1ST	Vector	Introduction Vectors, representation of vectors, Rectangular Resolution of a vector	1

	2ND	Algebra UNIT-IV	Algebra of vectors, Addition of two vectors, Triangle law of addition of vectors, parallelogram law of addition of vectors	1
	3RD		Properties of vector addition, Multiplication of a vector by a scalar, Subtraction of vectors, Illustrative examples	1
	4TH		Types of vectors, Illustrative examples	1
12TH	1ST		Dot product or scalar product of non-zero vectors, cos angle between two vectors, Application of dot product(work), Illustrative examples	1
	2ND		Problem Discussion	1
	3RD		Cross product or vector product of two vectors, properties of cross product, sine angle between two vectors	1
	4TH		Continue	1
13TH	1ST		Problem Discussion	1
	2ND		Application of Vector Product(Moment of force), Torque, Angular velocity, Illustrative examples	1
	3RD		Problem Discussion	1
	4TH		Problem Discussion	1
14TH	1ST	Differential Equations UNIT-V	Introduction to Differential Equation, ODE, PDE, Illustrative examples	1
	2ND		Order and Degree of Differential equation, Illustrative examples, solution of ordinary differential equation	1
	3RD		Formation of Differential Equation whose general solution is given, Illustrative examples	1
	4TH		Solution of First order and First degree Differential Equation by Variable Separation Method, Illustrative Examples	1
15TH	1ST		Problem Discussion	1
	2ND		MATLAB-An introduction, Salient Features	1
	3RD		Basics Of MATLAB, advantages and disadvanges of MATLAB	1
	4TH		Application of Differential Equations and MATLAB	1

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