NILASAILA INSTITUTE OF SCIENCE & TECHNOLOGY
SERGARH-756060,BALASORE (ODISHA)
(Approved by AICTE &affiliated to SCTE&VT , Odisha)

LESSON PLAN

SUBJECT: ENGINEERING MATHEMATICS-II(TH-3)

NAME OF THE FACULTY: MISS. BINDUPUSPA SHA
SEMESTER: 2ND **BRANCH: ALL BRANCHES**
SESSION: 2024-25 **EXAMINATION: 2025(S)**

CHAPTER WISE DISTRIBUTION OF PERIODS

SL. NO.	NAME OF THE CHAPTER AS PER SYLLABUS	NO. OF PERIODS AS PER SYLLABUS
1	DETERMINANT AND MATRIX	12
2	INTEGRAL CALCULUS	14
3	CO-ORDINATE GEOMETRY	13
4	VECTOR ALGEBRA	13
5	DIFFERENTIAL EQUATIONS	10
TOTAL		62

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31.01.25

DISCIPLINE:EE /EEE/ME/CE/ AE	SEMESTER:2ND	NAME OF THE FACULTY: MISS. BINDUPUSPA SHA SESSION:2024-25 EXAMINATION:2025(S)
Week	**Class Day**	**Topics to be covered**
1ST	1ST	**UNIT-I:-DETERMINANT AND MATRIX:**Elementary properties of determinant upto 3 order
	2ND	Elementary properties of determinant upto 3 order
	3RD	Consistency of equations
	4TH	Consistency of equations
2ND	1ST	Cramer's rule
	2ND	Cramer's rule
	3RD	Algebra of matrices
	4TH	Algebra of matrices
3RD	1ST	Inverse of matices
	2ND	Inverse of matices
	3RD	Matrix inverse method to solve a system of linear equations in 3
	4TH	Matrix inverse method to solve a system of linear equations in 3
4TH	1ST	**UNIT-II:INTEGRAL CALCULUS:**-Integration as inverse operation of differentiation
	2ND	Simple problems on integration by putting simple formulae
	3RD	Simple integration by substitution
	4TH	Simple integration by parts
5TH	1ST	Simple integration by parts
	2ND	Simple integration by partial fraction (for linear factors only)
	3RD	Simple integration by partial fraction (for linear factors only)
	4TH	Use of formulas $\int_0^{\frac{\pi}{2}} sin^n x dx$
6TH	1ST	Use of formulas $\int_0^{\frac{\pi}{2}} cos^n x dx$
	2ND	Use of formulas $\int_0^{\frac{\pi}{2}} sin^m x \, cos^n x dx$
	3RD	Application of integration for(i)Simple problems on evaluation of area bounded by a curve on axes
	4TH	(ii)Calcultion of volume of a solid form by revolution of an area about axes(simple problems)

Week	Class Day	Topics to be covered
7TH	1ST	**1ST INTERNAL ASSESMENT**
	2ND	Application of integration for(i)Simple problems on evaluation of area bounded by a curve on axes (ii)Calculation of volume of a solid form by revolution of an area about axes(simple problems)
	3RD	Application of integration for(i)Simple problems on evaluation of area bounded by a curve on axes (ii)Calculation of volume of a solid form by revolution of an area about axes(simple problems)
	4TH	**UNIT - III:CO-ORDINATE GEOMETRY:-** Equation of straight line in various standard forms (without proof)
8TH	1ST	Equation of straight line in various standard forms (without
	2ND	Angle between two lines.
	3RD	Parallel and perpendicular lines
	4TH	perpendicular distance formula.
9TH	1ST	General equation of a circle and its characteristics
	2ND	To find the equation of a circle, given: Centre and radius
	3RD	To find the equation of a circle, given: Three points lying on it
	4TH	To find the equation of a circle, given: Coordinates of end points of a diameter
10TH	1ST	Definition of conics (Parabola, Ellipse, Hyperbola) their standard equations without proof.
	2ND	Definition of conics (Parabola, Ellipse, Hyperbola) their standard equations without proof.
	3RD	Problems on conics when their foci, directories or vertices are given.
	4TH	Problems on conics when their foci, directories or vertices are given.
11TH	1ST	**UNIT-IV:VECTOR ALGEBRA:-** Definition notation and rectangular resolution of a vector
	2ND	Definition notation and rectangular resolution of a vector
	3RD	Addition of two vectors
	4TH	Substraction of two vectors
12TH	1ST	Addition and substraction of two vectors
	2ND	Scalar product of two vectors
	3RD	Scalar product of two vectors
	4TH	Vector product of two vectors

Week	Class Day	Topics to be covered
13TH	1ST	**2nd INTERNAL ASSESSMENT**
	2ND	Vector product of two vectors
	3RD	Scalar and vector product of two vectors
	4TH	Simple problems related to work, moment and angular velocity.
14TH	1ST	Simple problems related to work, moment and angular velocity.
	2ND	Simple problems related to work, moment and angular velocity.
	3RD	**UNIT-V:DIFFERENTIAL EQUATIONS:**-Simple introduction of differential equations
	4TH	simple introduction of differential equation
15TH	1ST	simple introduction of differential equation
	2ND	Representation of order and degree of a differential equation
	3RD	Representation of order and degree of a differential equation
	4TH	Representation of order and degree of a differential equation
16TH	1ST	Solution of first order and first degree differential equation by variable separation method (simple problems)
	2ND	Solution of first order and first degree differential equation by variable separation method (simple problems)
	3RD	Solution of first order and first degree differential equation by variable separation method (simple problems)
	4TH	**MATLAB** – Simple Introduction.

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