

LESSON PLAN

Discipline: Civil ,Mechanical & Electrical	Semester: First(1st)	Name of the Faculty: Mrs. Sudha Dharatri Lenka
Subject: Engg. Mathematics-I	No of Days per week class allotted: Six(6)	Semester from Date: 25.10.22 to Date: 31.01.23 No. of Weeks: 15
WEEK	CLASS DAY	THEORY TOPICS
1 st	1 st	Matrices and Determinant: Introduction, Definition of matrix
	2 nd	Types of matrices
	3 rd	Algebra of matrices (Addition & Subtraction of matrices)
	4 th	Algebra of matrices (Product of matrices)
	5 th	Determinant (Introduction , Minors, cofactors)
	6 th	Determinant(Introduction , Minors, cofactors)
2 nd	1 st	Determinant (Expansion of determinants)
	2 nd	Properties of determinant
	3 rd	Problems related to the properties of determinant
	4 th	Inverse of a matrix (Transpose & Adjoin of a matrix)
	5 th	Inverse of a matrix (second & third order)
	6 th	Cramer's Rule
3 rd	1 st	Problems Based on above
	2 nd	Solution of simultaneous linear equations by matrix inverse method
	3 rd	Problems Based on above
	4 th	Review class
	5 th	Introduction, Measurement of an angle
	6 th	Trigonometric Ratios (Definitions & Examples)
4 th	1 st	Trigonometric Ratios (Identities and Solved Problems)
	2 nd	Monthly Test-1
	3 rd	Trigonometric Ratios (Signs of T-Ratios & ASTC-Rule)
	4 th	Trigonometric Ratios (Selected Angles)
	5 th	Problems Based on above
	6 th	Trigonometric Ratios (Values of T-ratios of allied angles)
5 th	1 st	Trigonometric Ratios (Even function & Odd function)
	2 nd	Trigonometric Ratios (Theorem-1, Theorem-2, Theorem-3)
	3 rd	Compound angles, multiple angles, submultiple angles
	4 th	Problems Based on above
	5 th	Define inverse circular functions its characteristics properties

	6 th	Problems Based on above
6 th	1 st	Cont.....
	2 nd	Review class
	3 rd	Introduction, Derivation of Distance formula
	4 th	Division formula, Area of triangle (only formulae)
	5 th	Define Slope of line and angle between two lines (only formulae) Condition of parallelism and perpendicularity
	6 th	Problems Based on above
7 th	1 st	Monthly Test-2
	2 nd	Different forms of straight line-i) one point form ii) two-point form
	3 rd	iii) Slope form, iv) Intercept form, v) Perpendicular form
	4 th	Problems Based on above
	5 th	Equation of a line passing through a point and (i) parallel to a line
	6 th	Equation of a line passing through a point and (ii) perpendicular to a line
8 th	1 st	Problems Based on above
	2 nd	Equation of a line passing through the intersection of two lines
	3 rd	Problems Based on above
	4 th	Distance of a point from a line
	5 th	Problems Based on above
	6 th	Review class
9 th	1 st	Introduction, Equation of circle (i) center radius form
	2 nd	Equation of circle (ii) General equation of circle
	3 rd	Equation of circle (iii) End point of diameter form
	4 th	Problems based on above
	5 th	Review class
	6 th	Introduction of Co-Ordinate geometry in three dimensions.
10 th	1 st	Monthly Test-3
	2 nd	Distance formula, Section formula
	3 rd	Problems on above.
	4 th	Direction ratio, direction cosine
	5 th	Angle between two lines (Conditions of perpendicularity and parallelism)
	6 th	Problems on above.
	1 st	Equation of a plane (i) General form
	2 nd	Problems based on above
	3 rd	Angle between two planes

11 th	4 th	Perpendicular distance from a point to a plane
	5 th	Equation of plane passing through a point (i) parallel to a plane
	6 th	Equation of plane passing through a point (ii) Perpendicular to a plane, problems
12 th	1 st	Problems based on above
	2 nd	Review class
	3 rd	Introduction, Equation of sphere (i) Centre radius form
	4 th	Problems based on above
	5 th	Equation of sphere (ii) General form
	6 th	Equation of sphere (iii) Two end points of a diameter form (only formulae)
13 th	1 st	Problems based on above
	2 nd	Review class
	3 rd	Monthly Test-4
	4 th	Revision class
	5 th	Revision class
	6 th	Revision class
14 th	1 st	Revision class
	2 nd	Revision class
	3 rd	Revision class
	4 th	Revision class
	5 th	Revision class
	6 th	Revision class
15 th	1 st	Revision class
	2 nd	Revision class
	3 rd	Revision class
	4 th	Revision class
	5 th	Revision class
	6 th	Revision class