

Discipline: Civil/Electrical /Mechanical Engg.	Semester: 1st	Name Of The Teaching Faculty: Suraj Kumar Garada Semester from: 16/08/23 to 11/12/23
Subject: Engg. Mathematics I (Th 3)	No. Of Days/Week Class Allotted: 5+1	No. Of Weeks:15
Week	Class Day	Theory Topics
1 st	1 st	Chapter 2: TRIGONOMETRY: Introduction to trigonometry
	2 nd	Different types of trigonometric ratios
	3 rd	Trigonometric values in different quadrants
	4 th	Evaluation of trigonometric values
	5 th	Problems related to the above
	6 th (Tutorial class)	Revision
2 nd	1 st	Multiple angles formula for trigonometric functions
	2 nd	Compound angles formula for trigonometric functions
	3 rd	Sub-multiple angles formula for trigonometric functions
	4 th	Problems using the above formulae
		Problems using the above formulae
		Revision
3 rd	1 st	Solving trigonometric equations
	2 nd	Define inverse trigonometric functions
	3 rd	Formulae involving inverse trigonometric functions
	4 th	Problems related to the above
	5 th	Problems related to the above
	6 th (Tutorial class)	Revision

4 th	1 st	Chapter 3: CO-ORDINATE GEOMETRY IN TWO DIMENSIONS (Straight line): Introduction to two dimensional geometry
	2 nd	Different types of co-ordinate systems
	3 rd	Distance between two points
	4 th	Division formula and mid-point formula
	5 th	Area of a triangle and collinearity of three points
	6 th (Tutorial class)	Revision
5 th	1 st	Problems related to collinearity and division formula
	2 nd	Inclination and slope of a line , angle between two lines
	3 rd	Condition of perpendicularity and parallelism between two lines
	4 th	Problems related to the above
	5 th	Different forms of equations of straight line (slope-intercept form,slope-point form,two-point form)
	6 th (Tutorial class)	Revision
6 th	1 st	Intercept and normal form of equations of straight line
	2 nd	Problems related to the above
	3 rd	Equation of a line passing through a point and parallel to a line,also perpendicular to a line
	4 th	Equation of a line passing through the point of intersection of two lines
	5 th	Problems related to the above
	6 th (Tutorial class)	Revision
7 th	1 st	Distance of a point from a line,distance between two parallel lines
	2 nd	Chapter 4: CIRCLE: Equation of circle(radius-center form,diameter form)
	3 rd	General Equation of circle

	4 th	Problems related to the above
	5 th	Problems related to the above
	6 th (Tutorial class)	Revision
8 th	1 st	Chapter 1: MATRICES AND DETERMINANTS: Types of matrices
	2 nd	Algebra of matrices
	3 rd	Multiplication of matrices
	4 th	Problems related to the above
	5 th	Problems related to the above
	6 th (Tutorial class)	Revision
9 th	1 st	Introduction to determinant
	2 nd	Properties of determinant
	3 rd	Problems related to the above
	4 th	Problems related to the above
	5 th	Revision
	6 th (Tutorial class)	Define Inverse of a matrix
10 th	1 st	Define Adjoint and cofactor of matrix
	2 nd	Problems to find Inverse of a matrix
	3 rd	Problems to find Adjoint and cofactor of matrix
	4 th	Properties of adjoint of a matrix
	5 th	Problems related to the above
	6 th (Tutorial class)	Revision
	1 st	Explain Cramer's rule
	2 nd	Problems on Cramer's rule

11	th	3 rd	Find Solution of simultaneous equations by matrix inversion method
		4 th	Revision
		5 th	Chapter 5: CO-ORDINATE GEOMETRY IN THREE DIMENSIONS: Introduction to three dimensional geometry
		6 th (Tutorial class)	Revision
12	th	1 st	Distance formula ,section formula between points
		2 nd	Problems related to the above
		3 rd	Direction cosines and direction ratios of a line passing through two points
		4 th	Problems related to the above
		5 th	Find Angle between two lines if directions cosines or direction ratios of the two lines are given
		6 th (Tutorial class)	Revision
13	th	1 st	Condion of parallelism and perpendicularity between two lines
		2 nd	Equation a plane(drs of normal and a point,three point form)
		3 rd	Equation a plane(Intercept and normal form)
		4 th	General form a plane
		5 th	Find Angle between two planes if direction ratios of the two normal to the planes are given
		6 th (Tutorial class)	Revision
14	th	1 st	Find Perpendicular Distance of a point from a plane
		2 nd	Problems related to the above
		3 rd	Find Equation of a plane passing through a point and parallel to a plane
		4 th	Find Equation of a plane passing through a point and perpendicular to a plane
		5 th	Problems related to the above

	6 th (Tutorial class)	Revision
15 th	1 st	Chapter 6: SPHERE: Equation of sphere(radius-center form)
	2 nd	Equation of sphere(diameter form)
	3 rd	General Equation of sphere
	4 th	Problems related to the above
	5 th	Revision
	6 th (Tutorial class)	Revision

