

Discipline: Math & Sci.	Semester: 1 st , 2020-21	Name of the Teaching faculty: Jitendra Kumar Malik, Lecturer Mathematics
Sub: Engineering Mathematics-I	No of Days/weeks-06 Total Class allotted-75	Semester from date: 09-11-2020 to 31-03-2021 No. of weeks:13
Week	Class Day	Theory Topics.
1 st	1 st	Definition of matrix, Order of Matrices, Example of Matrices.
	2 nd	Types of Matrices.
	3 rd	Algebra of Matrices(addition, subtraction, multiplication).
	4 th	Determinant of a 2x2 & 3x3 matrix.
	5 th	Properties of Determinant.
	6 th	Discussion of Probable questions and answers.
2 nd	1 st	Inverse of a matrix of order (2x2 & 3X3),
	2 nd	Example of finding the inverse of a matrix.
	3 rd	Solution of system of linear equations by Matrix method
	4 th	Problems on Matrix Methods
	5 th	Problems
	6 th	Discussion of Probable questions and answers.
3 rd	1 st	Solution of system of linear equations by Cramer's Rule
	2 nd	Problems on Cramer's Rule
	3 rd	Problems
	4 th	Calculating the determinant without expansion methods
	5 th	Problems
	6 th	Discussion of Probable questions and answers.
4th	1 st	Trigonometrical ratios
	2 nd	Basic formulae
	3 rd	Problems
	4 th	Compound angles and their basic formulae
	5 th	Problems
	6 th	Discussion of Probable questions and answers.
5th	1 st	Multiple & sub multiple angles and their formulae
	2 nd	Problems
	3 rd	Inverse trigonometric functions and their formulae
	4 th	Problems on Inverse trigonometric functions
	5 th	Problems on Inverse trigonometric functions
	6 th	Discussion of Probable questions and answers.
6 th	1 st	Introduction of geometry in two dimension, Distance formula,
	2 nd	Problems
	3 rd	Division formula, area of a triangle formula
	4 th	Problems
	5 th	Slope of a line and their examples
	6 th	Discussion of Probable questions and answers.
7 th	1 st	Angle between two lines, conditions for parallelism and perpendicularity
	2 nd	Problems
	3 rd	General form of an equation of straight line , Different types of straight lines(only formulae)
	4 th	Problems
	5 th	Problems
	6 th	Discussion of Probable questions and answers.

8 th	1 st	Calculating equation of a line passing through a point, parallel to a line, perpendicular to a line
	2 nd	Problems
	3 rd	Equations of line passing through the intersection of two line
	4 th	Problems
	5 th	Distance between two parallel lines, distance from a point to the line
	6 th	Discussion of Probable questions and answers.
9 th	1 st	Definition of circle, equation of circle in 2D plane
	2 nd	An equation of circle if center and radius is given and if two end point of diameter is given.
	3 rd	Finding the center and radius of a circle.
	4 th	Equation of circle passing through 3 different points
	5 th	Problems
	6 th	Discussion of Probable questions and answers.
10 th	1 st	Introduction of geometry in three dimension and Distance formula
	2 nd	problems
	3 rd	Section formula & related problems
	4 th	Direction ratios and direction cosines
	5 th	problems
	6 th	Discussion of Probable questions and answers.
11th	1 st	Equation of planes, general form of an equation of planes
	2 nd	Angle between two planes, conditions for parallelism and perpendicularity
	3 rd	Equations of plane passing through the intersection of two plane
	4 th	Problems
	5 th	Distance between two parallel planes, distance from a point to the plane
	6 th	Discussion of Probable questions and answers.
12 th	1 st	Definition of Sphere, equation of Sphere in 3D plane
	2 nd	An equation of Sphere if center and radius is given and if two end point of diameter is given.
	3 rd	Finding the center and radius of a Sphere.
	4 th	Equation of Sphere passing through 4 different points.
	5 th	Problems
	6 th	Discussion of Probable questions and answers.
13 th	1 st	Discussion of Probable questions and answers.
	2 nd	Discussion of Probable questions and answers.
	3 rd	Discussion of Probable questions and answers.
	4 th	Discussion of Probable questions and answers.
	5 th	Discussion of Probable questions and answers.
	6 th	Discussion of Probable questions and answers.