

Discipline: Math & Sci.	Semester:3 rd , 2020-21	Name of the Teaching faculty: Jitendra Kumar Malik, Lecturer Mathematics
Sub: Engineering Mathematics-III	No of Days/weeks-04 Total Class allotted-60	Semester from date: 01-09-2020 to 19-03-2021 No. of weeks:15
Week	Class Day	Theory Topics.
1 st	1 st	Definition of complex numbers, conjugate of a complex numbers.
	2 nd	Problems
	3 rd	Modules and amplitude of complex numbers, polar form of a complex number.
	4 th	Problems
2 nd	1 st	Square root of a complex number and examples of it.
	2 nd	Cube root of complex numbers.
	3 rd	Problems
	4 th	Problems
3 rd	1 st	Types of matrices with examples.
	2 nd	Definition of rank of a matrix with examples.
	3 rd	Rouche's Theorem and consistency of system of linear equations.
	4 th	Problems
4th	1 st	Definition Higher order differential equations with example, homogeneous and non homogeneous differential equations
	2 nd	Solution of Higher order differential equations in term of C.F. & P.I.
	3 rd	Problems
	4 th	Problems
5th	1 st	Problems
	2 nd	Definition of partial differential equations, Form partial differential equations by eliminating arbitrary constant and arbitrary functions.
	3 rd	Solution of partial differential equations of the form $Pp+Qq=R$
	4 th	Problems
6 th	1 st	Problems
	2 nd	Definition of Gamma function, problems related to gamma functions.
	3 rd	Definitions of Laplace Transformations of functions, some basics formulae.
	4 th	Shifting theorem and its related Problems.
7 th	1 st	Problems
	2 nd	Problems
	3 rd	Laplace transformations of derivatives, integrations, multiplications by t^n and division by t .
	4 th	Problems
8 th	1 st	Problems
	2 nd	Formulae for inverse Laplace Transformations, partial fractions
	3 rd	Problems
	4 th	Problems
	1 st	Definition of Fourier series, periodic Functions, examples.
	2 nd	Definitions of Dirichlet's conditions, Euler's formulae for

9 th		Fourier series.
	3 rd	Definition of odd and even function, some basic formulae.
	4 th	Problems
10 th	1 st	Problems
	2 nd	Problems
	3 rd	Problems
	4 th	Problems
11 th	1 st	Significant digit, rounding of decimal numbers
	2 nd	Iterative formula for finding the solution of Algebraic equations. 1. Bisection methods
	3 rd	Problems
	4 th	2. Newton-Raphon's Methods
12 th	1 st	Problems
	2 nd	Definition of finite difference and interpolation methods.
	3 rd	Shift, forward and backward operator formula.
	4 th	Problems
13 th	1 st	Relation between shift, forward and back ward operator.
	2 nd	Lagrange interpolation formula & its related problems
	3 rd	Newton's forward and backward interpolation formula & its related problems.
	4 th	Problems
14 th	1 st	Newton's cotes formula, Trapezoidal rule, Simpsons 1/3 rd rule
	2 nd	Problems
	3 rd	Problems
	4 th	Problems
15 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.