NIST POLYTECHNIC

LESSION PLAN

SUBJECT:TH-1: ENGG. MATHEMATICS-III

NAME OF THE FACULTY:BINDUPUSPA SHA

BRANCH:ELECTRICAL & ELECTRONICS ENGINEERING EXAMINATION: 2024(W)

SEMESTER: 3RD SESSION:2024-25

CHAPTER WISE DISTRIBUTION OF PERIODS

SL. NO.	Name of the chapter as per the syllabus	No. of periods as per the syllabus	No. of periods actually covered
1	COMPLEX NUMBER	6	9
2	MATRICES	4	9
3	DIFFERENTIAL EQUATION	10	8
4	LAPLACE TRANSFORMATION	12	12
5	FOURIER SERIES	12	12
6	NUMERICAL METHODS	4	8
7	FINITE DIFFERENCES AND INTERPOLATION	12	12
	TOTAL	60	70

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DISCIPLINE:EEE	SEMESTER: 3RD	NAME OF THE FACULTY:Bindupuspa Sha	
		SESSION:2024-25	EXAMINATION:2024(W)
WEEK	CLASS DAY	TOPICS TO BE COVERED	
1ST	1ST	UNIT:I:-COMPLEX NUMBERS: Real and Imaginary part of a complexnumbers.	
	2ND	conjugate of a complex numbers	
	3RD	modulus of a complex number	
	4TH	amplitude of a complex number	
2ND	1ST	geometrical representation of a complex number	
	2ND	properties of a complex number	
	3RD	determination of three cube roots of units	
	4TH	properties of three cube roots of unity	
3RD	1ST	De- moiver's theorem	
	2ND	UNIT:II:- MATRICES:Introduction of matrices and their properties	
	3RD	Rank of a matrices	
	4TH	perform elementary row transformations to determine the rank of a matrices	
4TH	1ST	perform elementary row transformations to determine the rank of a matrices	
	2ND	State Rouche's theorem for consistency of a system of linear equations in unknowns	
	3RD	State Rouche's theorem for consistency of a system of linear equations in unknowns	
	4TH	State Rouche's theorem for consistency of a system of linear equations in unknowns	
5TH	1ST	Solve equations in three unknowns testing consistency	
	2ND	Solve equations in three unknowns testing consistency	
	3RD	UNIT:III:-DIFFERENTIAL EQUATIONS:Define Homogeneous and Non – Homogeneous Linear Differential Equations with constant coefficients with	
	4TH	Find general solutions of linear differential equations in terms of C.F and P.I	

WEEK	CLASS DAY	TOPICS TO BE COVERED
6TH	1ST	Find general solutions of linear differential equations in terms of C.F and P.I
	2ND	Derive rules for finding C.F & P.I in terms of operator D excluding
	3RD	Define partial differential equations
	4TH	Form partial differential equation by eliminating arbitrary constant and arbitrary functions
7TH	1ST	Form partial differential equation by eliminating arbitrary constant and arbitrary functions
	2ND	Solve problems of linear differential equations
	3RD	**UNIT:IV:-LAPLACE TRANSFORMATIONS:** Define Gamma functions and their propeties
	4TH	Define Laplace transform and inverse Laplace transform of a function
8TH	1ST	Define Laplace transform and inverse Laplace transform of a function
	2ND	Define Laplace transform and inverse Laplace transform of a function
	3RD	Define L.T of standard functions and explain existence conditions of L.T
	4TH	Define L.T of standard functions and explain existence conditions of L.T
9TH	1ST	Explain linear , shifting property of L.T
	2ND	Explain linear , shifting property of L.T
	3RD	Formulate L.T. of derivatives , integrals , multiplication by t^n and division by t
	4TH	Formulate L.T. of derivatives , integrals , multiplication by t^n and division by t
10TH	1ST	Derive formulae of inverse L.T and explain method of partial fraction
	2ND	Derive formulae of inverse L.T and explain method of partial fraction
	3RD	**UNIT:V:- FOURIER SERIES:** Define periodic functions.
	4TH	State Dirichlet's condition for Fourier expansion of a funtion and it's convergence

WEEK	CLASS DAY	TOPICS TO BE COVERED
11TH	1ST	State Dirichlet's condition for Fourier expansion of a funtion and it's convergence
	2ND	State Dirichlet's condition for Fourier expansion of a funtion and it's convergence
	3RD	Explain periodic function f(x) satisfying Dirichlet's conditio as a fourier series
	4TH	Explain periodic function f(x) satisfying Dirichlet's conditio as a fourier series
12TH	1ST	State Euler's formulae
	2ND	State Euler's formulae
	3RD	Define even and odd functions and find Fourier series in ($0 \leq x \leq 2\pi$ and $-\pi \leq x \leq \pi$)
	4TH	Define even and odd functions and find Fourier series in ($0 \leq x \leq 2\pi$ and $-\pi \leq x \leq \pi$)
13TH	1ST	Obtain F.S of continuous functions and functions having points of discontinuity
	2ND	Obtain F.S of continuous functions and functions having points of discontinuity
	3RD	**UNIT:VI:-NUMERICAL METHODS:** Appraise limitation of analytical methods of solution of Algebraic Equations.
	4TH	Appraise limitation of analytical methods of solution of Algebraic Equations.
14TH	1ST	Derive iterative formula for finding the solutions of algebric equations by:Newton raphson method
	2ND	Derive iterative formula for finding the solutions of algebric equations by:Newton raphson method
	3RD	Derive iterative formula for finding the solutions of algebric equations by:Newton raphson method
	4TH	Derive iterative formula for finding the solutions of algebric equations by:Bisection method
15TH	1ST	Derive iterative formula for finding the solutions of algebric equations by:Bisection method
	2ND	Derive iterative formula for finding the solutions of algebric equations by:Bisection method
	3RD	**UNIT:VII:FINITE DIFFERENCE AND INETRPOLATION:** Explain finite difference and form table of forward and backword difference
	4TH	Define shift operator and establish relation between shift operator and diffrence operator

WEEK	CLASS DAY	TOPICS TO BE COVERED
16TH	1ST	Define shift operator and establish relation between shift operator and diffrence operator
	2ND	Derive Newton's forward and backword interpolation formula for equal interval
	3RD	Derive Newton's forward and backword interpolation formula for equal interval
	4TH	Derive Newton's forward and backword interpolation formula for equal interval
17TH	1ST	State langrange's interpolation formulae for unequal inetrvals
	2ND	State langrange's interpolation formulae for unequal inetrvals
	3RD	Explain numerical integration and state : Newton cote's formulae
	4TH	Newton cote's formulae
18TH	1ST	Trapezoidal Rule
	2ND	Trapezoidal Rule
	3RD	Simpson's 1/3 rd rule
	4TH	Simpson's 1/3 rd rule

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