PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF ENGINEERING & TECHNOLOGY, BARGARH

PROGRESS REGISTER

Session-2021-2022

Discipline: Electrical Engg. Semester: 3rd

Name of the Teaching Faculty: Mr Shubhranshu Ku Sahu

Subject: Engg. Math - III No. of Days/per week class allotted 4

Semester From Date : 1.10.2021 To Date : 31.1.2022 No. of Weeks : 15

Section	Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
A	5.10.21	Complex Numbers	Define Real and Imaginary numbers, integral powers of i with examples		
B	1.10.21				
A	7.10.21		Addition, Subtraction, Multiplication and Division of Complex numbers with examples		
B	4.10.21				
A	9.10.21		Conjugate, Modulus and Amplitudes of a complex numbers with examples		
B	5.10.21				
A	21.10.21		Geometrical Representation of complex number and Square roots of a complex number with examples		
B	8.10.21				
A	23.10.21		Cube roots of unity and their properties and Solve problems		
B	22.10.21				
A	26.10.21		De Moivre's Theorem (State) and Solve problems		
B	25.10.21				
A	2.11.21	Matrices	Basic concepts with examples		
B	26.10.21				
A	3.11.21		Rank of matrix (Defn) Elementary row transformation to determine rank of matrix with examples		
B	1.11.21				
A	6.11.21		State Rouche's Theorem for consistency of a system of a linear equn's in n unknowns		
B	2.11.21				
A	9.11.21		Linear equn's in three unknowns testing consistency and Solve problems		
B	3.11.21				
A	10.11.21	Linear Differential Equations	Homogeneous and Non-homogeneous Linear differential equn's with constant coefficients, Operator D and Inverse operator of D.		
B	5.11.21				

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A	11.11.21		Rules for finding the A.E., C.F. and complete solution		
B	8.11.21				
A	13.11.21		Solve $f(D)y = X$ if $X = 0$ with examples		
B	9.11.21				
A	16.11.21		Rules for finding the P.I. in some special cases with examples		
B	10.11.21				
A	17.11.21		General solution of Linear d.ff. equ^{n}.s in terms of C.F. and P.I.		
B	12.11.21				
A	18.11.21		complete solution of Linear d.ff. equ^{n}.s with examples		
B	15.11.21				
A	23.11.21	Pantial Diff. Equations	Def^{n}, pantial diff. equ^{n}.s by eliminating anbitrary constants and functions		
B	16.11.21				
A	24.11.21		Pantial differential equ^{n}.s of the form $Pp + Qq = R$		
B	17.11.21				
A	25.11.21		solution of Pantial diff. equ^{n}.s		
B	22.11.21				
A	30.11.21	Laplace Transform	Double Integrals, Def^{n} of Gamma function, Value of $\Gamma(n)$		
B	23.11.21				
A	1.12.21		Properties of $\Gamma(n)$, $\Gamma(n+1)$ and Evalution of $\Gamma(\frac{1}{2})$ and Evalute problems		
B	24.11.21				
A	2.12.21		Laplace Transformation of a function $f(t)$ and some simple functions		
B	26.11.21				

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A	4.12.21		Linearity, shifting and change of scale property of Laplace Transform		
B	29.11.21				
A	7.12.21		Evaluate Problems		
B	30.11.21				
A	8.12.21		Laplace Transform of Derivatives, Integrals and Multiplication by t^n		
B	1.12.21				
A	9.12.21		Evaluate	Problems	
B	3.12.21				
A	11.12.21		Division by t and Evaluate	problems	
B	6.12.21				
A	14.12.21		Inverse Laplace Transforms (Method of Partial fractions) formulae and solve problem		
B	7.12.21				
A	15.12.21		Solve	Problems	
B	8.12.21				
A	16.12.21	Numerical Methods	Appraise limitation of analytical methods of sol.^{n}s of Algebraic Equ.^{n}s		
B	10.12.21				
A	18.12.21		Derive Iterative formulae for finding the sol.^{n}s of Algebraic Equ.^{n} by		
B	13.12.21				
A	21.12.21		a) Bisection Method		
B	14.12.21		and Solve	problem	
A	22.12.21		b) Newton - Raphson Method		
B	15.12.21		and Solve	Problem	

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A	23.12.21	Finite Difference and Interpolation	Finite difference, Types of difference and difference formulae and Evaluate		
B	17.12.21				
A	28.12.21		Factorial Notation, Table for forward (Δ) and backward (∇) differences and find the missing values.		
B	20.12.21				
A	29.12.21		Form the forward and Backward difference table and find the missing, Assuming values		
B	21.12.21				
A	30.12.21		Define shift operator (E) and establish relation between E, Δ and ∇		
B	22.12.21				
A	4.1.22		Derive Newton's forward and Backward interpolation formulae for equal intervals and solve Problems		
B	24.12.21				
A	5.1.22		Solve Problems		
B	27.12.21				
A	6.1.22		State inverse interpolation (Lagrange's interpolation formulae for unequal intervals) and solve Problems		
B	28.12.21				
A	8.1.22		Solve Problems		
B	29.12.21				
A	11.1.22		State and Explain numerical integration a) Newton's cote's formula b) Trapezoidal Rule c) Simpson's $1/3$ Rule and Evalute		
B	31.12.21				
A	12.1.22		Solve Problems		
B	3.1.22				
A	13.1.22		Solve Problems		
B	4.1.22				

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A	15.1.22	Fourier series	Define Periodic functions		
B	5.1.22				
A	18.1.22		State Euler's Formulae and Solve Problems		
B	7.1.22				
A	19.1.22		Solve Problems		
B	10.1.22				
A	20.1.22		Solve Problems		
B	11.1.22				
A	22.1.22		Dirichlet's conditions for a fourier expansion and its convergence		
B	12.1.22				
A	25.1.22		Obtain F.S. of continuous function and function having points of discontinuity and solve problems		
B	18.1.22				
A	26.1.22		Solve Problems		
B	19.1.22				
A	27.1.22		change of intervals and Solve Problems		
B	21.1.22				
A	29.1.22		Solve problems		
B	24.1.22				
A	1.2.22		Define odd and even functions with examples		
B	25.1.22				
A	2.2.22		Solve Problems		
B	28.1.22				

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A	3.2.22		Solve Problems		
B	31.1.22				
A	8.2.22		Discussion and Answer	Question	
B	1.2.22				
A	9.2.22		Discussion and Answer	Question	
B	2.2.22				
A	10.2.22		Discussion and Answer	Question	
B	4.2.22				