

LESSON PLAN WINTER(2023-24)(ELECTRICAL-SEC(A))

DISCIPLINE: Mathematics		NAME OF THE TEACHING FACULTY: Smt. Supriya khatua		
Subject:Engineering Mathematics-III		Semester From date:07.08.2023 to Date:30.11.2023		
SL. NO	Week/month	Dates	No. of Weeks: 16	No. of periods allotted
			Theory Topics to be covered	
1	2nd, August	7-8-2023	Complex Numbers-1.1 Define Real and Imaginary number	1
		8-8-2023	1.2 Complex numbers, conjugate complex numbers, Modulus and Amplitude of a complex number.	1
		9-8-2023	Solve problems on the above	1
		11-8-2023	1.3 Geometrical Representation of Complex Numbers.	1
2	3rd, August	14/8/2023	1.4 Properties of Complex Numbers.	1
		16/8/2023	1.5 Determination of three cube roots of unity and their properties.	1
		18/8/2023	1.6 De Moivre's theorem	1
3	4th, August	21/8/2023	Solve problems on the above	1
		22/8/2023	Matrices- 2.1. Define rank of a matrix.	1
		23/8/2023	2.2. Perform elementary row transformations to determine the rank of a matrix.	
		25/8/2023	3.7 Solve problems on the above	1
4	5th, August	28/8/2023	2.3. State Rouche's theorem for consistency of a system of linear equations in unknowns.	1
		29/8/2023	2.4. Solve equations in three unknowns testing consistency	1
		1-9-2023	Linear Differential Equations - 3.1. Define Homogeneous and Non — Homogeneous Linear Differential Equations with constant coefficients with examples.	1
5	1st, September	4-9-2023	3.2. Find general solution of linear Differential Equations in terms of C.F. and P.I.	1
		5-9-2023	3.3. Derive rules for finding C.F. And P.I. in terms of operator D	1
		8-9-2023	3.4 Define partial differential equation (P.D.E) .	1
6	2nd, September	11-9-2023	3.5 Form partial differential equations by eliminating arbitrary constants and arbitrary functions	1
		12-9-2023	3.6 Solve partial differential equations of the form $Pp + Qq = R$	1
		13/9/2023	3.7 Solve problems on the above	1
		15/9/2023	Laplace Transforms - Define Gamma function	1
7	3rd, September	18/9/2023	Define Laplace Transform of a function and Inverse Laplace Transform	1

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7	3rd, September	22/9/2023	Derive L.T. of standard functions and explain existence conditions of L.T	1
8	4th, September	25/9/2023	Explain linear, shifting property of L.T.	1
		26/9/2023	Formulate L.T. of derivatives, integrals, multiplication by and division by .	1
		27/9/2023	Derive formulae of inverse L.T. and explain method of partial fraction	1
		29/9/2023	Problems on the above	1
9	1st, October	3-10-2023	Define periodic functions.	1
		4-10-2023	State Dirichlet's condition for the Fourier expansion of a function and it's convergence	1
		6-10-2023	Define periodic function satisfying Dirichlet's conditions as a Fourier series	1
		9-10-2023	Define odd & even functions and find Fourier Series	1
10	2nd, October	10-10-2023	Obtain F.S of continuous functions and functions having points of discontinuity in $(0 \leq x \leq 2n \text{ \& } -n \leq x \leq n)$	1
		11-10-2023	Problems on the above	1
		13/10/2023	N erioa ethods- Appraise limitation of analytical methods of solution of Algebraic Equations.	1
		16/10/2023	Derive Iterative formula for finding the solutions of Algebraic Equations by : Bisection method	1
11	3rd, October	17/10/2023	Derive Iterative formula for finding the solutions of Algebraic Equations by Newton Raphson method	1
		18/10/2023	Problems on the above	1
		20/10/2023	Finite difference and interpolation - Explain finite difference and form table of forward and backward difference	1
		30/10/2023	Define shift Operator and establish relation between & difference operator .	1
12	1st, November	31/10/2023	Derive Newton's forward and backward interpolation formula for equal intervals.	1
		1-11-2023	Problems on the above	1
		3-11-2023	Problems on the above	1
		6-11-2023	State Lagrange's interpretation formula for unequal intervals	1

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13	2nd, November	7-11-2023	Problems on the above	1
		8-11-2023	Explain numerical integration and state:Newton's Cote's	1
		10-11-2023	Explain numerical integration and state: Trapezoidal rule.	1
14	3rd, November	13/11/2023	Problems on the above	1
		14/11/2023	Problems on the above	1
		15/11/2023	Explain numerical integration and state:Simpson's 1/3rd	1
		17/11/2023	Problems on the above	1
15	4th, November	20/11/2023	Problems on the above	1
		21/11/2023	Revision	1
		22/11/2023	Revision	1
		24/11/2023	Revision	1
16	5th, November	28/11/2023	Revision	1
		29/11/2023	Revision	1