

LESSON PLAN (Winter-2021)

Discipline: ETC	Semester: 3rd	Name of the Teaching Faculty: SMITARANI BARIK/KISHOR KU. ADEK
Subject: Engg Mathematics-III	No of Days /per week class allotted: 4	Semester From date: 01.10.2021 To 08.01.2022 No of Weeks:15
Date	Class Day	Theory / Practical Topics
1.10.21	1st	1. Complex Numbers (6) 1.1 Real and Imaginary numbers.
7.10.21	2nd	1.2 Complex numbers, conjugate complex numbers, Modulus and Amplitude of a complex
8.10.21	3rd	1.3 Geometrical Representation of Complex Numbers.
9.10.21	4th	1.4 Properties of Complex Numbers.
	1st	PUJA VACATION
	2nd	
	3rd	
	4th	
9.10.21	1st	1.5 Determination of three cube roots of unity and their properties.
16.10.21	2nd	1.6 De Moivre's theorem Solve problems on 1·1 - 1·6 1.7
21.10.21	3rd	2. Matrices (4) 2.1. Define rank of a matrix.
22.10.21	4th	2.2. Perform elementary row transformations to determine the rank of a matrix.
23.10.21	1st	2.3. State Rouche's theorem for consistency of a system of linear equations in unknowns.
23.10.21	2nd	2.4. Solve equations in three unknowns testing consistency. 2.5. Solve problems on 2.1 – 2.4
27.10.21	3rd	3. Linear Differential Equations (10) 3.1. Define Homogeneous and Non – Homogeneous Linear Differential Equations with constant coefficients with examples.
28.10.21	4th	3.2. Find general solution of linear Differential Equations in terms of C.F. and P.I.
29.10.21	1st	3.3. Derive rules for finding C.F. And P.I. in terms of operator D, excluding.
30.10.21	2nd	3.4. Define partial differential equation (P.D.E) .
3.11.21	3rd	3.5. Form partial differential equations by eliminating arbitrary
5.11.21	4th	constants and arbitrary functions.
5.11.21	1st	3.6. Solve partial differential equations of the form $Pp + Qq = R$
6.11.21	2nd	3.7. Solve problems on 3.1- 3.6
10.11.21	3rd	4. Laplace Transforms (12) 4.1. Define Gamma function and find .

11.11.21	4th	4.2. Define Laplace Transform of a function and Inverse Laplace Transform .
12.11.21	1st	4.3. Derive L.T. of standard functions and explain existence conditions of L.T.
13.11.21	2nd	4.4. Explain linear, shifting property of L.T.
17.11.21	3rd	4.5. Formulate L.T. of derivatives, integrals, multiplication by
17.11.21	4th	and division by .
18.11.21	1st	4.6. Derive formulae of inverse L.T. and explain method of partial fractions .
20.11.21	2nd	4.7. solve problem on 4.1- 4.6
24.11.21	3rd	5. Fourier Series (12) 5.1. Define periodic functions.
25.11.21	4th	5.2. State Dirichlet's condition for the Fourier expansion of a
25.11.21	1st	function and it's convergence
26.11.21	2nd	5.5. Define Even and Odd functions and find Fourier Series in
27.11.21	3rd	5.3. Express periodic function satisfying Dirichlet's conditions as
1.12.21	4th	a Fourier series.
2.12.21	1st	5.4. State Euler's formulae. ()
3.12.21	2nd	5.6. Obtain F.S of continuous functions and functions having
4.12.21	3rd	points of discontinuity in ()
4.12.21	4th	5.7. Solve problems on 5.1 – 5.6
8.12.21	1st	6. Numerical Methods (4) 6.1. Appraise limitation of analytical methods of solution of
9.12.21	2nd	Algebraic Equations.
10.12.21	3rd	6.2. Derive Iterative formula for finding the solutions of
11.12.21	4th	Algebraic Equations by :
15.12.21	1st	6.2.1. Bisection method
15.12.21	2nd	6.2.2. Newton- Raphson method
16.12.21	3rd	6.3. solve problems on 6.2
17.12.21	4th	7. Finite difference and interpolation (12) 7.1. Explain finite difference and form table of forward and
18.12.21	1st	backward difference.
22.12.21	2nd	7.2. Define shift Operator and establish relation between &
23.12.21	3rd	difference operator.
24.12.21	4th	7.3. Derive Newton's forward and backward interpolation
29.12.21	1st	formula for equal intervals.
30.12.21	2nd	7.4. State Lagrange's interpretation formula for unequal
30.12.21	3rd	intervals.
31.12.21	4th	7.5. Explain numerical integration and state:
5.1.22	1st	7.5.1. Newton's Cote's formula.
6.1.22	2nd	7.5.2. Trapezoidal rule.
7.1.22	3rd	7.5.3. Simpson's 1/3 rd rule
8.1.22	4th	7.6. Solve problems on 7.1- 7.5

Signature of the Faculty