GANDHI SCHOOL OF ENGINEERING

BHABANDHA, BERHAMPUR

PROPOSED WORK

3RD EE SUBJECT-Th.1 ENGINEERING MATHEMATICS – III

Name of Faculty-   NISHAN BEHERA

SL NO. CHAPTER	TOPICS	NO OF PERIODS ASSIGNED BY SCTE&VT	PLANNING DATES	REMARKS
1	**Complex Numbers** 1.1 Real and Imaginary numbers. 1.2 Complex numbers, conjugate complex numbers, Modulus and Amplitude of a complex number. 1.3 Geometrical Representation of Complex Numbers. 1.4 Properties of Complex Numbers. 1.5 Determination of three cube roots of unity and their properties. 1.6 De Moivre's theorem 1.7 Solve problems on 1·1 - 1·6	06	**09 DEC 2021** **To** **22 DEC 2021**	
2	**Matrices** 2.1. Define rank of a matrix. 2.2. Perform elementary row transformations to determine the rank of a matrix. 2.3. State Rouche's theorem for consistency of a system of linear equations in unknowns. 2.4. Solve equations in three unknowns testing	04	**01 DEC 2021** **To** **08 DEC 2021**	

	consistency. 2.5. Solve problems on 2.1 – 2.4			
3	**Linear Differential Equations** 3.1. Define Homogeneous and Non – Homogeneous Linear Differential Equations with constant coefficients with examples. 3.2. Find general solution of linear Differential Equations in terms of C.F. and P.I. 3.3. Derive rules for finding C.F. And P.I. in terms of operator D, excluding. 3.4. Define partial differential equation (P.D.E) . 3.5. Form partial differential equations by eliminating arbitrary constants and arbitrary functions. 3.6. Solve partial differential equations of the form Pp + Qq = R 3.7. Solve problems on 3.1- 3.6	10	**23 DEC 2021 To 30 DEC 2021**	
4	**Laplace Transforms** 4.1. Define Gamma function and and find . 4.2. Define Laplace Transform of a function and Inverse Laplace Transform . 4.3. Derive L.T. of standard functions and explain existence conditions of L.T. 4.4. Explain linear, shifting property of L.T. 4.5. Formulate L.T. of derivatives, integrals, multiplication by and division by t 4.6. Derive formulae of inverse L.T. and explain method of partial fractions . 4.7. solve problem on 4.1- 4.6	12	**08 JAN 2022 To 17 JAN 2022**	

5	**Fourier Series** 5.1. Define periodic functions. 5.2. State Dirichlet's condition for the Fourier expansion of a function and it's convergence 5.3. Express periodic function satisfying Dirichlet's conditions as a Fourier series. 5.4. State Euler's formulae. 5.5. Define Even and Odd functions and find Fourier Series 5.6. Obtain F.S of continuous functions and functions having points of discontinuity in 5.7. Solve problems on 5.1 – 5.	12	**31 DEC 2021** **To** **07 JAN 2022**	
6	**Numerical Methods** 6.1. Appraise limitation of analytical methods of solution of Algebraic Equations. 6.2. Derive Iterative formula for finding the solutions of Algebraic Equations by 6.2.1. Bisection method 6.2.2. Newton- Raphson method 6.3. solve problems on 6.2	04	**01 OCT 2021** **To** **26 OCT 2021**	
7	Finite difference and interpolation 7.1. Explain finite difference and form table of forward and backward difference. 7.2. Define shift Operator and establish relation between & difference operator . 7.3. Derive Newton's forward and backward interpolation formula for equal intervals. 7.4. State Lagrange's interpretation formula for unequal intervals. 7.5. Explain numerical integration and state:	12	**27 OCT 2021** **To** **30 OCT 2021**	

	7.5.1. Newton's Cote's formula. 7.5.2. Trapezoidal rule. 7.5.3. Simpson's 1/3rd rule 7.6. Solve problems on 7.1- 7.			

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