PNS SCHOOL OF ENGINEERING & TECHNOLOGY
NISHAMANI VIHAR, MARSHAGHAI, KENDRAPARA
LESSON PLAN
DEPARTMENT : BASIC SCIENCE & HUMANITIES - 2022-23

SUBJECT:ENGG.MATH.III TH-1 TOTAL NO.OF CLASSES PESCRIBED AS PER SYLLABUS:60	NO.OF DAYS PER WEEK CLASS ALLOTTED:05	SEMESTER FROM DATE 15.09.2022 TO 22.12.2022. NO.OF WEEKS:14
WEEK	**CLASS DAY**	**TOPICS THEORY**
1st	1st	Real and imaginary numbers,complex number, conjugate,modulus ,reciprocal,equality of a complex number.
	2nd	Argument and geometrical representation of a complex number,properties of complex number.
	3rd	Problems on above
	4th	Cube roots of unity & their properties,problems on it.
	5th	De Moivre's theorem &it's application.problems on it.
2nd	1st	Problems on above.
	2nd	Doubt clearing
	3rd	Rank of a matrix, Elementary row transformation to determine rank
	4th	Rouche's theorem to test consistency of a system of linear equation.problems on above
	5th	Problems on above
3rd	1st	Problems on above
	2nd	Doubt clearing
	3rd	Introductio to differential equation,Linear differential equation(LDE) & it's general form.Homogeneous and non homogeneous LDE with constant coefficients.
	4th	Differential operator D and symbolic representation of LDE, General solution of LDE in terms of C.F and P.I,Inverse operator
	5th	Rules for finding C.F
4th	1st	Rules for finding P.I
	2nd	Problems on above
	3rd	Problems on above
	4th	Partial Differential equation(PDE), Formation of PDE by eliminating arbitrary constants or function
	5th	Problems on above
5th	1st	Procedure to solve PDE of the form Pp+Qq=R and problems
	2nd	Problems on above
	3rd	Doubt clearing
	4th	Monthly test
	5th	Gamma function ,deduction on Gamma function
6th	1st	Deductions on Gamma function and problems on it
	2nd	Laplace transform(LT),Condition of existence of LT, Linearity property of LT,Inverse LT
	3rd	LT of standard functions
	4th	LT of standard functions, unit step function and it's LT
	5th	Shifting property,LT of derivatives,integral,multiplication by t^n,Division by t

7th	1st	Problems on above.
	2nd	Problems on above
	3rd	Standard formula for inverse LT
	4th	Method of partial fraction, problems
	5th	Problems on above
8th	1st	Problems on above
	2nd	Doubt clearing
	3rd	Periodic function,even and odd function
	4th	Problems on above
	5th	Dirichlet's condition for Fourier expansion of a function and it's convergence.
9th	1st	Fourier series of function and Euler's formula
	2nd	Problems on above
	3rd	Problems on above
	4th	Monthly test
	5th	Fourier series of function having point of discontinuity in the interval $[0,2\pi]$ and $[-\pi,\pi]$
10th	1st	Problems on above
	2nd	Problems on above
	3rd	Fourier series of even and odd function in the interval $[0,2\pi]$ and $[-\pi,\pi]$
	4th	Problems on above
	5th	Problems on above
11th	1st	Doubt clearing
	2nd	Rules for rounding a number,Limitation of Analytical methods of solution of Algebraic equation
	3rd	Iterative methods for finding solutions of Algebraic equations by Bisection and Newton-Raphson method
	4th	Some recurrence formula and problems on above
	5th	Problems on above
12th	1st	Doubt clearing
	2nd	Finite difference and types of finite difference,shift operator (E)
	3rd	Forward and backward difference operator
	4th	Difference of polynomial and problems
	5th	Factorial notation and problems
13th	1st	Relation between shift operator and forward difference operator
	2nd	Problems on above
	3rd	Interpolation,Newton's forward and backward interpolation formula for equal intervals
	4th	Lagrange's interpolation formula for unequal intervals
	5th	Problems on above
14th	1st	Monthly Test
	2nd	Numerical integration, Newtoncote's formula
	3rd	Trapezoidal rule, Simpsons $1/3^{rd}$ rule
	4th	Problems on above
	5th	Doubt clearing/semester question discussion
15th	1st	Doubt clearing/semester question discussion

Sunakar Singh

SIGNATURE OF H.O.D.

Sunakar Singh

SIGNATURE OF LECTURER