NILASAILA INSTITUTE OF SCIENCE & TECHNOLOGY
SERGARH-756060,BALASORE (ODISHA)
(Approved by AICTE &affiliated to SCTE&VT , Odisha)

LESSON PLAN

SUBJECT: ENGINEERING MATHEMATICS-I(TH-3)

NAME OF THE FACULTY: MISS. BINDUPUSPA SHA
SEMESTER: 1ST **BRANCH: ALL BRANCHES**
ACADEMIC YEAR: 2025-26 **EXAMINATION: 2025(W)**

CHAPTER WISE DISTRIBUTION OF PERIODS

SL. NO.	NAME OF THE CHAPTER AS PER SYLLABUS	NO. OF PERIODS REQUIRED TO COVER THE SYLLABUS
1	TRIGONOMETRY	**15**
2	DIFFERENTIAL CALCULUS	**15**
3	ALGEBRA: COMPLEX NUMBERS	**10**
4	PARTIAL FRACTION	**10**
5	PERMUTATION AND COMBINATION	**4**
6	BINOMIAL THEOREM	**6**
TOTAL		**60**

Bindeepuspa Sha
30/07/2025

Sign of faculty

30.07.2025

Sign. Of H.O.D

NAME OF THE PROGRAMME: DIPLOMA IN AE/ME/CE/EE/EEE	SEMESTER:1ST	NAME OF THE TEACHING FACULTY: MISS. BINDUPUSPA SHA	
		ACADEMIC YEAR: 2025-26 EXAMINATION:2025(W)	
COURSE CODE:TH-3	COURSE YEAR:1ST YEAR	NO OF CLASSES ALLOTED PER WEEK	4
		PLANNED CLASSES REQUIRED TO COMPLETE THE COURSE	60

Week	Class Day	Topics to be covered
1st	1st	**UNIT-I:-TRIGONOMATRY:** Concept of angles
	2nd	Measurement of angles in degrees
	3rd	Grades and radians and their conversions
	4th	T- ratios of allied angles(without proof)
2nd	1st	sum and difference and their applications(without proof)
	2nd	product formula(transformation of product to sum , difference and vice versa)
	3rd	T-ratios of multiple angles
	4th	sub- multiple angles(2A,3A,A/2)
3rd	1st	Graphs of Sinx, cosx, tanx
	2nd	trigonometrical ratios
	3rd	compound angles, multiple angles and sub- multiple angles
	4th	compound angles, multiple angles and sub- multiple angles
4th	1st	Define inverse circular functions and their properties
	2nd	Define inverse circular functions and their properties
	3rd	Problems on concepts of trigonometry
	4th	**UNIT-II:- DIFERENTIAL CALCULUS:** Introduction of differential calculus
5th	1st	Definitions of functions
	2nd	concept of limit
	3rd	Four standard limits and problems on each standard
	4th	Differentiation by definition
6th	1st	Differentiation of trigonometric functions

Week	Class Day	Topics to be covered
6th	2nd	Differentiation of algebric functions
	3rd	Differentiation of exponential functions
	4th	Differentiation of sum, difference and quotient of functions
7th	1st	Differentiation trigonometric and inverse trigonometric functions
	2nd	Differentiation trigonometric and inverse trigonometric functions
	3rd	Differentiation of logarithmic functions
	4th	Differentiation of logarithmic functions
8th	1st	Differentiation exponential functions
	2nd	Question discussion on formula for differentiation
	3rd	**UNIT-III:- ALGEBRA: COMPLEX NUMBERS:**- Algebra of complex numbers
	4th	Algebra of complex numbers
9th	1st	Real and imaginary part of complex numbers
	2nd	Polar and cartesian form of complex numbers
	3rd	Representation of complex numbers and conversion of one form to another
	4th	conjugate of a omplex numbers
10th	1st	modulus of a complex numbers
	2nd	Amplitude of a complex numbers
	3rd	Addition, substraction, multiplication and divison of a complex numbers
	4th	De- movier's theorem
11th	1st	**PARTIAL FRACTION:** Definition of polynomial partial fraction
	2nd	Definition of polynomial partial fraction
	3rd	Resolve proper fraction into partial fraction with denominator containing non repeating linear factors
	4th	Repeated linear factors and irreducible non repeated quadratic factors
12th	1st	Resolve proper fraction into partial fraction with denominator containing non repeating linear factors

Week	Class Day	Topics to be covered
12th	2nd	Resolve proper fraction into partial fraction with denominator containing non repeating linear factors
	3rd	Resolve improper into partial fraction
	4th	Resolve improper into partial fraction
13th	1st	Resolve proper fraction into partial fraction
	2nd	Resolve proper fraction into partial fraction
	3rd	**PERMUTATION AND COMBINATION:**Definition of permutation and combination
	4th	Definition of permutation and combination
14th	1st	Problems on permutation and combination
	2nd	Problems on permutation and combination
	3rd	**BINOMIAL THEOREM:** Explain Binomial Theorem (without proof)
	4th	Explain Binomial Theorem (without proof)
15th	1st	Binomial theorem for positive integral index
	2nd	Binomial theorem for positive integral index
	3rd	First and second binomial approimation with application to engineering problems
	4th	First and second binomial approimation with application to engineering problems

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