LESSON PLAN OF APPLIED MATHEMATICS-I

DISCIPLINE : **All Branches**	SEMESTER : **2nd**	NAME OF THE TEACHING FACULTY : Sabdika Nayak, Satyajit Pradhan
SUBJECT : ~~APPLIED~~ **MATH-II**	NO. OF DAYS/PER WEEK CLASS ALLOTTED:**05**	SEMESTER FROM DATE : 16.08.24 TO DATE: 24.12.24 NO. OF WEEKS : **15**
WEEK :	**CLASS DAY :**	**THEORY TOPIC :**
1ST	1ST	(UNIT - I: Trigonometry)Concept of angles, measurement of angles in degrees, grades and radians and their conversions
	2ND	T-Ratios of Allied angles (without proof)t-ratios of $(-\theta)$, $(90^\circ - \theta)$,$(180^\circ - \theta)$
	3RD	Sum, difference formulae of T-Ratios
	4TH	Applications (without proof) of Sum & difference formulae
2ND	1ST	Product formulae (Transformation of product to sum, difference and vice versa)
	2nd	T- Ratios of multiple angles
	3rd	sub-multiple angles (2A, 3A, A/2).
	4th	Graphs of sin x, cos x
3RD	1st	Graphs of tan x and ex .
	2nd	Problems based on it.
	3rd	Exercises
	4th	(UNIT-II: Differential Calculus) Definition of Reletion & different types of it.
4TH	1st	Definition of function & types,
	2nd	Domain,Co-Domain and Range of Function
	3rd	Some special functions and their Domain,Range and Graph
	4th	Concept of limits
5TH	1ST	Left and Right hand limits
	2ND	Existence of Limits
	3RD	Exercises
	4TH	Derivative of function at a point(Derivative of Function,Differentiation of Some Standard Function by Definition)
6TH	1ST	Differentiation of Some Standard Function by Definition
	2nd	Algebra of Derivative of Functions
	3rd	Algebra of Derivative of Functions
	4th	Differentiation of Composite Function (Chain Rule)
7TH	1st	Differentiation of Composite Function (Chain Rule)
	2nd	Differentiation of Trigonometric Functions
	3rd	Differentiation of Inverse Trigonometric Functions
	4th	Differentiation of Logarithmic and Exponential Functions
8TH	1st	Exercises
	2nd	Exercises

	3rd	(UNIT - III: Algebra) Complex Numbers: Basic Concept of Complex Number , Real and Imaginary Parts of a Complex Number
	4th	Algebraic Operations with Complex Numbers
9TH	1ST	Properties of Algebraic Operations on Complex Numbers
	2ND	Equality of Two Complex Numbers
	3RD	Conjugate Complex Number ,Properties of Conjugate
	4TH	Modulus of a Complex Number
10TH	1ST	Argument (Amplitude) of a Complex Number
	2nd	Various representations of a Complex Number : Geometrical Representation (Cartesian Representation)
	3rd	Trigonometrical (Polar) Representation ,
	4th	Conversion of One form to Another
11TH	1st	De' Moivre's theorem
	2nd	Problems based on De' Moivre's theorem
	3rd	Partial Fractions
	4th	Problems based on Partial Fractions
12TH	1st	Exercises
	2nd	Exercises
	3rd	Permutation and Combination, Binomial Theorem: Fundamental Principle of Counting (Principle of Multiplication)
	4th	Principle of Addition
13TH	1ST	Permutations (Permutations when all the Objects are Distinct)
	2ND	Factorial Notation
	3RD	Permutation Under Various Case
	4TH	Combinations
14TH	1ST	Binomial expression(Binomial Theorem for Positive Integral Index)
	2nd	Binomial Theorem for any Index
	3rd	Problems on Approximation by the Binomial Theorem
	4th	Exercises
15TH	1st	Exercises
	2nd	Revision Of Trigonometry
	3rd	Revision Of Differential calculus
	4th	Revision Of Algebra

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Signature of Faculty

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