Lesson Plan

Name   :Dr. Manisha

Discipline   : Common for all branches

Year   : 1st

Subject   :   Applied Maths-I

Duration : 16 weeks (04/08/2025 to 26/11/2025)

Workload   : 4 Lectures per week

Week		Theory
	Lecture Day	**Topic (including assignment/ test)**
1.	**1st**	**1.1 Complex Numbers: definition of complex number, real and imaginary parts of a complex number**
	2nd	**Polar and Cartesian Form and their inter conversion, Conjugate of a complex number**
	3	**modulus and amplitude, addition subtraction**
		multiplication and division of complex number
2. \	**1st**	**1.2 Logarithms and its basic properties**
	2nd	**UNIT II Binomial Theorem, Determinants and Matrices**
	3rd	**(mathematical expression). Binomial theorem (without proof) for positive integral index (expansion and general form); binomial theorem for any index**
	4th	**Practice**
3.	**1st**	**binomial theorem for any index (expansion up to 3 terms - without proof)**
	2nd	Practice
	3rd	Assignment
	4th	**first binomial approximation with application to engineering problems.**
4.	**1st**	**2.2 Determinants and Matrices – Evaluation of determinants (upto 2ndorder)**
	2nd	**solution of equations (upto 2 unknowns) by Crammer's rule**
	3rd	**definition of Matrices and its types**.
	4rth	**addition, subtraction and multiplication of matrices (upto 2nd order).**
5.	**1st**	**Assignment**
	2nd	**UNIT III Trigonometry 3.1 Concept of angle, measurement of angle in degrees**
	3rd	**grades, radians and their conversions.**
	4rth	**Practice**
6.	**1st**	**3.2 T-Ratios of Allied angles (without proof), Sum, Difference formulae**
	2nd	**and their applications (without proof).**
	3rd	**Product formulae (Transformation of product to sum, difference and vice versa**
	4rth	**Practice, Assignment**
7.	**1st**	**3.3 Applications of Trigonometric terms in engineering problems such as to find an angle of elevation, height, distance etc.**

	2nd	3.3 Applications of Trigonometric terms in engineering problems such as to find an angle of height, distance etc.
	3rd	Revision
	4rth	Practice
8.	1st	UNIT-IV Co-ordinate Geometry
	2nd	4.1 Cartesian and Polar co-ordinates (two dimensional;.
	3rd	Distance between two points
	4rth	mid- point, centroid of vertices of a triangle.
9.	1st	4.2 Slope of a line, equation of straight line in various standards forms (without proof
	2nd	slope intercept form, intercept form, one-point form
	3rd	two-point form, symmetric form, normal form, general form
	4rth	intersection of two straight lines, concurrency of lines, angle between straight lines,
10.	1st	parallel and perpendicular lines, perpendicular distance formula
	2nd	conversion of general form of equation to the various forms
	3rd	Revision
	4rth	Assignment
11.	1st	UNIT V Geometry of Circle and Software : Circle 5.1 General equation of a circle and its characteristics. To find the equation of a circle, given: i. Centre and radius
	2nd	ii. Three points lying on it
	3rd	iii. Coordinates of end points of a diameter
	4rth	Revision and Assignment
12.	1st	5.2 MATLAB Or SCILAB software – Theoretical Introduction
	2nd	MATLAB or SCILAB Simple Calculator (Addition)
	3rd	subtraction of values –Trigonometric and Inverse Trigonometric functions) – General Practice
	4rth	Practice and Assignment
13.	1st	Revision
	2nd	Revision
	3rd	Revision
	4rth	Revision
14.	1st	Revision
	2nd	Revision
	3rd	Revision
	4rth	Revision
15	1st	Revision
	2nd	Revision
	3rd	Revision

	4rth	Revision
16	1st	Revision
	2nd	Revision
	3rd	Revision
	4rth	Revision