Lesson Plan

Name : **Smt. Monika**

Discipline : **Applied science**

Subject : **Applied Mathematics**

Duration : **2024 - 2025**

Workload per week : **4 Lectures**

Theory	
Lecture	**Topic**
1	Complex Numbers: definition of complex number, real and imaginary parts of a complex number, Polar and Cartesian Form and their inter conversion,
2	Conjugate of acomplex number, modulus and amplitude,
3	addition subtraction, multiplication anddivision of complex numb
4	Revision
5	Logarithms and its basic properties
6	Revision
7	Binomial theorem (mathematical expression)
8	Binomial theorem (without proof) for;positive integral index (expansion and general form)
9	Revision
10	binomial theorem for any index(expansion up to 3 terms - without proof)
11	first binomial approximation with applicationto engineering problems.
12	Revision
13	Determinants Evaluation
14	Determinants and Matrices – Evaluation of determinants (upto 2nd order)
15	Revision
16	solution of equations (upto 2 unknowns) by Crammer's rule,)
17	definition of Matrices and its types,addition, subtraction (upto 2nd order).
18	multiplication of matrices (upto 2nd order).
19	Revision
20	Revision
	Sessional Exam
21	Concept of angle, measurement of angle in degrees, grades, radians and their conversions.
22	T-Ratios of Allied angles (without proof), Sum, Difference formulae and their applications (without proof).
23	Revision
24	Product formulae (Transformation of product to sum,difference and vice versa)

25	Applications of Trigonometric terms in engineering problems such as to find an angle of elevation, height, distance etc.
26	Revision
27	Cartesian and Polar co-ordinates (two dimensional), Distance between two points
28	mid-point, of a triangle
29	centroid of vertices of a triangle
30	Revision
31	Revision
32	Slope of a line, equation of straight line in various standards forms (without proof)
33	(slope intercept form, intercept form, one-point form, two-point form, symmetric form)
34	normal form, general form of slope
35	**Revision**
	Sessional Exam
36	intersection of two straight lines, concurrency of lines, angle between straight lines,
37	Revision
38	parallel and perpendicular lines, perpendicular distance formula, conversion of general form of equation to the various forms.
39	**Revision**
40	*General* equation of a circle and its characteristics. To find the equation of a circle
41	Centre and radius
42	Three points lying on it
43	Revision
44	MATLAB Or SciLab software – Theoretical Introduction, MATLAB or Scilabas
45	**Note book check**
46	**Revision**
47	Simple Calculator (Addition and subtraction of values –Trigonometric and Inverse function
48	**Gernal practice of MATLAB**
49	**Gernal practice of MATLAB**
50	**Revision**
	Sessional exam