

Lesson Plan (2025-26)

Name : Smt. Monika
Discipline : Applied science (Common for all branches)
Subject : Applied Mathematics
Year : 1st Sem.
Code : 220012
Duration : 04/08/2025 to 26/11/2025
Workload : 4 Lectures per week

Lecture No.	Theory Topic
1	Complex Numbers: definition of complex number, real and imaginary parts of a complex number.
2	Polar and Cartesian Form and their inter conversion.
3	Conjugate of a complex number, modulus and amplitude.
4	addition subtraction, multiplication and division of complex number
5	Revision
6	Logarithms and its basic properties
7	Revision
8	Binomial theorem (mathematical expression)
9	Binomial theorem (without proof) for positive integral index (expansion and general form)
10	Revision
11	binomial theorem for any index (expansion up to 3 terms - without proof)
12	first binomial approximation with application to engineering problems.
13	Revision
14	Determinants Evaluation
15	Determinants and Matrices – Evaluation of determinants (upto 2 nd order)
16	Revision
17	solution of equations (upto 2 unknowns) by Cramer's rule.)
18	definition of Matrices and its types, addition, subtraction (upto 2 nd order).
19	multiplication of matrices (upto 2 nd order).
20	Revision
21	Revision
22	Revision
23	Concept of angle, measurement of angle in degrees, grades, radians and their conversions.
24	T-Ratios of Allied angles (without proof), Sum, Difference formulae and their applications (without proof).
25	Revision
26	Product formulae (Transformation of product to sum, difference and vice versa)
27	Applications of Trigonometric terms in engineering problems such as to find an angle of elevation, height, distance etc.
28	Revision
29	Cartesian and Polar co-ordinates (two dimensional), Distance between two points
30	mid-point, of a triangle
31	centroid of vertices of a triangle
32	Revision
33	Revision
34	Slope of a line, equation of straight line in various standard forms (without proof)
35	(slope intercept form, intercept form, one-point form, two-point form, symmetric form)
36	normal form, general form of slope
37	Revision

38	Revision
39	intersection of two straight lines, concurrency of lines, angle between straight lines.
40	Revision
41	parallel and perpendicular lines, perpendicular distance formula, conversion of general form of equation to the various forms.
42	Revision
43	General equation of a circle and its characteristics. To find the equation of a circle
44	Centre and radius
45	Three points lying on it
46	Revision
47	MATLAB Or SciLab software – Theoretical Introduction, MATLAB or Scilabas
48	Revision
49	Simple Calculator (Addition and subtraction of values –Trigonometric and Inverse function
50	Gernal practice of MATLAB
51	Gernal practice of MATLAB

Note: There will be class Tests, Assignments, Sessional Exams and Quizzes etc. will be given as per Academic Calendar.

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29/7/25

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PAC Committee
Member - 1
(Sh. Narender Rana)

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PAC Committee
Member - 2
(Smt. Sonia)

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PAC Committee
Member - 3
(Dr. Jyoti Gupta)