LessonPlan (2025-26)

Name	:	Monika Kumari
Discipline	:	Common for all branches
Semester	:	2nd
Subject	:	Applied Mathematics II
Code	:	250022
Duration	:	15/01/2026- 30/04/2026
Load	:	4 Lectures per week

Theory

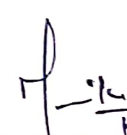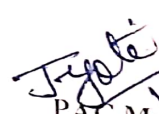| Lecture No.	Topics
1	Functions, Concept of limits, Standard limits and related problems.(L-1)
2	Concept of limits, Standard limits and related problems.(L-2)
3	First Principle of Differentiation
4	Differentiation of sum, subtraction and product of functions and related problems.
5	Differentiation of quotient of functions and related problems.
6	Differentiation of Algebraic and Trigonometric functions.
7	Differentiation of Trigonometric and Inverse Trigonometric functions.
8	Logarithmic Differentiation.
9	Successive differentiation (up to 2nd order). (L-1)
10	Successive differentiation (up to 2nd order). (L-2)
11	Application of differential calculus in Rate measures. (L-1)
12	Application of differential calculus in Rate measures. (L-2)
13	Application of differential calculus in Maxima and minima. (L-1)
14	Application of differential calculus in Maxima and minima. (L-2)
15	Integration as inverse operation of differentiation i.e. Indefinite Integral with simple examples.
16	Indefinite Integral. (L-2)
17	Simplest and hard integrals and related Simple problems.
18	Integration by Substitution Method.
19	Integration by parts and related Simple problems.
20	Evaluation of $\int_0^{\frac{\pi}{2}} in^n x\, dx$ and $\int_0^{\frac{\pi}{2}} co_s^n x\, dx$ and related problems.
21	Evaluation of $\int_0^{\frac{\pi}{2}} sin^m x cos^n x\, dx$ and related problems.
22	Applications of integration: for evaluation of area under a curve and axes.(L-1)
23	Applications of integration: for evaluation of area under a curve and axes.(L-2)
24	Numerical integration by Trapezoidal Rule existing mathematical models.(L-1)
25	Numerical integration by Trapezoidal Rule existing mathematical models.(L-2)
26	Numerical integration by Simpson's $1/3^{rd}$ existing mathematical models.(L-1)
27	Numerical integration by Simpson's $1/3^{rd}$ existing mathematical models.(L-2)
28	Definition, order, degree and linearity of an ordinary differential equation.
29	Formulation of Differential Equations.
30	Solution of 1st order and 1st degreed of differential equation by variable separable method.
31	Measures of Central Tendency: Mean and related problems.
32	Measures of Central Tendency: Median and related problems.

33	Measures of Central Tendency: Mode and related problems.
34	Measures of Dispersion: Mean deviation.
35	Measures of Dispersion: Standard deviation.
36	SciLab Software–Theoretical Introduction.
37	Basic differences between MATLAB and SciLab Software.
38	Calculation with MATLAB or SciLab: Representation, Addition and Subtraction of Matrices.
39	Revision of UNIT-I
40	Revision of UNIT-I
41	Revision of UNIT-II
42	Revision of UNIT-II
43	Revision of UNIT-III
44	Revision of UNIT-III
45	Revision of UNIT-IV
46	Revision of UNIT-IV
47	Revision of UNIT-V
48	Revision of UNIT-V

Note: There will be Class Test, Assignment work and Sessional Exam., Quizzes etc. will be given as per Academic Calendar.

Monika Kumari
13/01/26
Lecturer in Mathematics

PAC Member 1
(Sh. Narender Kumar)
13/01/26.

PAC Member 2
(Smt. Sonia)
13/01/26

PAC Member 3
(Dr. Jyoti Gupta)
13/1/26