Lesson Plan (2025-2026)

Name   :   Narender Rana
Discipline   :   Common for all branches
Year   :   2st Sem
Subject   :   Applied Mathematics II
Code   :   220022
Duration   :   15/01/2026 to 30/04/2026
Work Load   :   4 Lectures per week

	Theory
Lecture No.	**Topics**
1	Definition of functions.
2	Standard limits and related problems. **(L-1)**.
3	Standard limits and related problems. **(L-2)**.
4	Standard limits and related problems. **(L-3)**.
5	Differentiation of standard function (Only formulas).
6	Differentiation of x^n, e^x by Ist principal method **(L-1)** .
7	Differentiation of x^n, e^x by Ist principal method **(L-2)**.
8	Differentiation of Cosx & Sin x by Ist principal method.
9	Differentiation of sum and subtraction of functions and some simple problems.
10	Differentiation of product of functions and some simple problems.
11	Differentiation of quotient of functions and some simple problems.
12	Differentiation of Trigonometric functions. **(L-1)**.
13	Differentiation of Trigonometric functions. **(L-2)**.
14	Differentiation of Exponential function. **(L-1)**.
15	Differentiation of Exponential function. **(L-2)**.
16	Differentiation of Logarithmic function. **(L-1)**.
17	Differentiation of Logarithmic function. **(L-2)**.
18	Successive differentiation (up to 2nd order). **(L-1)**.
19	Successive differentiation (up to 2nd order). **(L-2)**.
20	Application of differential calculus in: Rate measures. **(L-1)**.
21	Application of differential calculus in: Rate measures. **(L-2)**.
22	Application of differential calculus in: Maxima and minima. **(L-1)**.
23	Application of differential calculus in: Maxima and minima. **(L-2)**.
24	Integration as inverse operation of differentiation i.e. Indefinite Integral with Simple examples.
25	Indefinite Integral.
26	Simple standard integrals and related Simple problems. **(L-1)**.
27	Simple standard integrals and related Simple problems. **(L-2)**.
28	Integrations by substitution method and related Simple problems.

29	Integrations by parts and related Simple problems.
30	Evaluation of definite integrals with given limits. (L-1).
31	Evaluation of definite integrals with given limits. (L-2).
32	Evaluation of $\int_0^{\frac{\pi}{2}} \sin^m x\, dx$ and $\int_0^{\frac{\pi}{2}} \cos^m x\, dx$ and related problems.
33	Evaluation of $\int_0^{\frac{\pi}{2}} \sin^m x \cos^n x\, dx$ and related problems.
34	Applications of integration: for evaluation of area under a curve and axes. (L-1).
35	Applications of integration: for evaluation of area under a curve and axes. (L-2).
36	Numerical integration by Trapezoidal Rule existing mathematical models. (L-1).
37	Numerical integration by Trapezoidal Rule existing mathematical models. (L-2).
38	Numerical integration by Simpson's $1/3^{rd}$ existing mathematical models. (L-1).
39	Numerical integration by Simpson's $1/3^{rd}$ existing mathematical models. (L-2).
40	Definition, order, degree and linearity of an ordinary differential equation.
41	Formulation of ordinary differential equation up to Ist order .
42	Solution of 1st order and 1st degree differential equation by variable separable method. (L-1).
43	Solution of 1st order and 1st degree differential equation by variable separable method. (L-2).
44	Measures of Central Tendency: Mean and related problems.
45	Measures of Central Tendency: Median & Mode related problems.
46	Measures of Dispersion: Mean deviation & Standard deviation from mean.
47	Theoretical introduction of SciLab Software (L1).
48	Theoretical introduction of SciLab Software (L2).

Note: There will be Class Tests;Assignments work, Sessional Tests; Quizzes etc. will be given as per Academic Calendar (2025-26) of Even semesters.

06/01/26
(Navaler Rang)

PAC 13/01/26

PAC

Member I

(Sh Navada Rang)

PAC 13/01/26

Member II

(Smt Sonia)

PAC

Member III

(Smt Jyoti Gupta)