Lesson Plan

Name : Permal Singh
Discipline : Common for all branches
Semester : 2nd
Subject : Applied Mathematics: 220022 (15.01.2026-30.04.2025

Theory	
Lecture No.	**Topics**
1	Functions.
2	Concept of limits, Standard limits and related problems. (L-1)
3	Concept of limits, Standard limits and related problems. (L-2)
4	First Principle of Differentiation
5	Differentiation of sum, subtraction and product of functions and related problems.
6	Differentiation of quotient of functions and related problems.
7	Differentiation of Algebraic and Trigonometric functions.
8	Differentiation of Trigonometric and Inverse Trigonometric functions.
9	Logarithmic Differentiation.
10	Successive differentiation (up to 2nd order). **(L-1)**
11	Successive differentiation (up to 2nd order). **(L-2)**
12	Application of differential calculus in: Rate measures. **(L-1)**
13	Application of differential calculus in: Rate measures. **(L-2)**
14	Application of differential calculus in: Maxima and minima. **(L-1)**
15	Application of differential calculus in: Maxima and minima. **(L-2)**
	Ist Sessional Test Date:- 17.02.25 to 21.02.25
16	Integration as inverse operation of differentiation i.e. Indefinite Integral with simple examples.
17	Indefinite Integral. **(L-2)**
18	Simple standard integrals and related Simple problems.
19	Integration by Substitution Method.
20	Integrations by parts and related Simple problems. **(L-1)**
21	Integrations by parts and related Simple problems. **(L-2)**
22	Evaluation of $\int_0^{\frac{\pi}{2}} sin^m x\, dx$ and $\int_0^{\frac{\pi}{2}} cos^m x\, dx$ and related problems.
23	Evaluation of $\int_0^{\frac{\pi}{2}} sin^m x\, cos^n x\, dx$ and related problems.
24	Applications of integration: for evaluation of area under a curve and axes. **(L-1)**
25	Applications of integration: for evaluation of area under a curve and axes. **(L-2)**
	IInd Sessional Test Date:- 17.03.25 to 21.03.25
26	Numerical integration by Trapezoidal Rule existing mathematical models. **(L-1)**
27	Numerical integration by Trapezoidal Rule existing mathematical models. **(L-2)**
28	Numerical integration by Simpson's 1/3rd existing mathematical models. **(L-1)**
29	Numerical integration by Simpson's 1/3rd existing mathematical models. **(L-2)**
30	Definition, order, degree and linearity of an ordinary differential equation.
31	Formulation of Differential Equations.
32	Solution of Ist order and Ist degree differential equation by variable separable method.
33	Measures of Central Tendency: Mean and related problems.
34	Measures of Central Tendency: Median and related problems.
35	Measures of Central Tendency: Mode and related problems.
36	Measures of Dispersion: Mean deviation.
37	Measures of Dispersion: Standard deviation.
38	SciLab Software – Theoretical Introduction.
39	Basic differences between MATLAB and SciLab Software.
40	Calculation with MATLAB or SciLab: Representation, Addition and Subtraction of Matrices.
	IIIrd Sessional Test Date:- 21.04.25 to 24.04.25
41	Revision of UNIT-I

42	Revision of UNIT-I
43	Revision of UNIT-II
44	Revision of UNIT-II
45	Revision of UNIT-III
46	Revision of UNIT-III
47	Revision of UNIT-IV
48	Revision of UNIT-IV
49	Revision of UNIT-V
50	Revision of UNIT-V