

Lesson Plan

Name : Narender Rana
Discipline : Common for all branches
Year : 2nd Sem
Subject : Applied Mathematics II
Code : 220022
Duration : 15/02/2024 to 14/06/2024
Work Load : 4 Lectures per week

Lecture No.	Theory
	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 1st principal method (L-1) .
7	Differentiation of x^n, e^x by 1st principal method (L-2).
8	Differentiation of $\cos x$ & $\sin x$ by 1st 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 $1/3^{\text{rd}}$ existing mathematical models. (L-1).
39	Numerical integration by Simpson's $1/3^{\text{rd}}$ existing mathematical models. (L-2).
40	Definition, order, degree and linearity of an ordinary differential equation.
41	Formulation of ordinary differential equation up to 1st order .
42	Solution of 1^{st} order and 1^{st} degree differential equation by variable separable method. (L-1).
43	Solution of 1^{st} order and 1^{st} degree differential equation by variable separable method. (L-2).
44	Measures of Central Tendency: Mean and related problems.
45	Measures of Central Tendency: Median and related problems.
46	Measures of Central Tendency: Mode and related problems.
47	Measures of Dispersion: Mean deviation from mean.
48	Measures of Dispersion: Standard deviation.
49	Theoretical introduction of SciLab Software (L1).
50	Theoretical introduction of SciLab Software (L2).
51	Revision of Unit I
52	Revision of Unit I
53	Revision of Unit II
54	Revision of Unit III
55	Revision of Unit IV
56	Revision of Unit V

Note: There will be Class Tests; Assessment Tests; Quizzes etc. will be given as per Academic Calendar.