Lesson Plan
MCM DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans (Odd Semester/Even Semester)
Session – (2025-26)
Odd Semester

Name of the Teacher: Dr. Renu Bala
Department: Physics Department
Class: B.Sc. III (Semester 5)
Subject: Computational Physics   **Section**: Hons

S. No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	**To**		
1	24 July 2025	31 Aug 2025	**C Programming Language** Types of Computer Systems and Operating Systems. Introduction to Programming : Algorithms, Structured Programming. Basic idea of Compilers. Data and Statements : Data Types. Constants and Variables. Mathematical, Relational, Logical and Bitwise Operators. Expressions and Statements. Block, Local and Global variables. Auto, Static and External Variables. I/O Statements : printf, scanf, getc, getch, getchar, getche, etc. Programs : (a) Data handling: find standard deviation, mean, variance, moments etc., (b) the least squared fitted curve for a data set, (c) roots of quadratic equations,	Lecture Method, demonstrations, Assignment, Hands on training, Doubt sessions, Group discussions Class Test
2	1 Sept 2025	30 Sept 2025	Manipulators for Data Formatting: setw, width, endl and setprecision etc. ASCII Files I/O. Preprocessor : #include and #define directives. Control Statements :- If-statement. If-else Statement. Nested if Structure. Else-if Statement. Ternary Operator. Goto Statement. Switch Statement. Unconditional and Conditional Looping. While Loop. Do-while Loop. For Loop. Break and Continue Statements. Nested Loops. Arrays and Structures :- One and Two Dimensional Arrays. Idea of Structures, Strings and Pointers (d) first order derivative at given x for a data set using Lagrange interpolation, (e) numerical integration on 1-D function using Simpson methods, (f) solving a differential equation using Euler/Runge-Kutta method	Lecture Method, demonstrations, Hands on training, Assignment, Doubt sessions, Group discussions Class Test
3	1 Oct 2025	31 Oct 2025	Functions : Standard Library Functions and User-defined Functions. , (g) Sum, Difference and Product of Matrices, (h) determinant of a matrix - its eigenvalues and eigenvectors	Lecture Method, hands on training, online sources Assignment, doubt sessions, Mid-term test
4	1 Nov 2025	13 Nov 2025	Functions returning Values. Function Prototypes. Function Call by Value and by Reference. Recursion.	Lecture Method, doubt sessions Revision