CURRICULUM PLAN 2024-2025
Even Semester: V, III, I
Dr. Rashmi Menon
Department of Physics

B.Sc.(H)-IInd year

Name of Paper and Code	Allocation of Lectures	Month-wise Schedule followed by the department
DSE 2: NUMERICAL ANALYSIS -16 Periods		
Approximation and Errors in computing: Introduction to numerical computation, Taylor's expansion and mean value theorem. Floating Point Computation, overflow, and underflow. Single and double precision arithmetic. Rounding and truncation error, absolute and relative error, error propagation.	3	18-Aug to 1-Sept
Linear Systems: Solution of linear systems by Gaussian elimination method, partial and complete pivoting, LU decomposition, norms and errors, condition numbers, Gauss-Seidel method, diagonally dominant matrix, and convergence of iteration methods. Solution of Tridiagonal systems; Eigenvalue Problem: Power method, inverse power method.	8	8-Sept to 27-Oct

Interpolation: Lagrange and Newton's methods (divided difference) for polynomial interpolation, theoretical error of interpolation. Inverse Interpolation. Optimal points for interpolation and Chebyshev Polynomials. Minimax Theorem (Statement only)	5	3-Nov to 8-Dec