CURRICULUM PLAN 2021-2022
Even Semester: V, III, I
Dr Rashmi Menon
Dept of Physics

B.Sc(H)-IInd year

Name of Paper and Code	Allocation of Lectures	Month-wise Schedule followed by the department
SEC: Numerical Analysis (32223912)- 30 Periods		
Solutions of Algebraic and Transcendental Equations: (1) Fixed point iteration method, (2) Bisection method, (3) Secant Method, (4) Newton Raphson method, (5) Generalized Newton's method. Comparison and error estimation	6	17-Aug to 3-Sept
Interpolation: Forward and Backward Differences. Symbolic Relation, Differences of a polynomial. Newton's Forward and Backward Interpolation Formulas	5	7-Sept to 21-Sep
Least Square fitting: (1) Fitting a straight line. (2) Non-linear curve fitting: (a) Power function, (b) Polynomial of nth degree, and (c) Exponential Function. (3) Linear Weighed Least Square Approximation	5	24-Sep to 8-Oct
Numerical Differentiation: (1) Newton's interpolation Formulas & (2) Cubic Spline Method, Errors in Numeric Differentiation. Maximum and Minimum values of a Tabulated Function	4	12-Oct to 22 Oct
Numerical Integration: Generalized Quadrature Formula. Trapezoidal Rule. Simpson's 1/3 and 3/8 Rules. Weddle's Rule, Gauss-Legendre Formula.	4	26 Oct to 5 Nov
Solution of Ordinary Differential Equations: First Order ODE's: solution of Initial Value problems:	4	9 Nov to 23 Nov

(1) Euler's Method, (2) Modified Euler's method		