SYLLABUS:

- ODE 's & linear algebra : Method of order reduction. Matrix analysis: eigenvalues and eigenfunctions, LU factorization, power of matrices. Systems of ODE's with constant coefficients.
- Fourier Series: standard formulae, sine and cosine series, half range series, Parseval's Theorem.
- PDE's: Second order equations and their classification; Laplace , wave and diffusion equations.
- Vector Calculus
- Complex Variables
- Integration: Line integrals. Double integrals; inversion of order of integration; change of variable.