FMCC 603 DIFFERENTIAL EQUATION -II (3-0-0)

Module-I (10 hrs)

Boundary value problems for Ordinary Differential Equations;Sturm -Lioville Problems ,Orthogonalism of Eigen functions, Green's functions, Self adjoint Equations of second order.

Ordinary Differential Equations in more than two variables, Simultaneous linear first order equations in three variables, Methods of solution of Pfaffian differential Equations in three variables

Module-II(10 hrs)

Partial Differential Equations of first order: Formulation of first order Partial Differential Equation, Linear Partial Differential Equations of first order,Non-Linear Partial Differential Equations of first order, Special types of Partial Differential Equations of first order, Solution of Partial Differential Equations of first order satisfying given conditions (Charpit's Methods)

Module-III(10 hrs)

Partial Differential Equations of second and higher order: Linear Partial Differential Equations with constant coefficients, Equations reducible to linear Partial Differential Equations with constant coefficients,Partial Differential Equations with variable coefficients.

Some standard forms of variable coefficients, Separation of variables (Product method), Non linear equations of the second order (Mange's Method).

Books Recommended:

(1) A course on Ordinary and Partial Differential Equations

J Sinha Roy and Padhy

(2) Ordinary and Partial Differential Equations

M D Raisinghania.