

# SYLLABUS

## THEORY OF EQUATIONS

(SEMESTER-II)

(P.U.)

PAPER-III :

### UNIT - I

Euclid's algorithm, Synthetic division, Roots and their multiplicity. Complex roots of real polynomials occur in conjugate pairs with same multiplicity. Relation between roots and coefficients. Transformation of equations. Descartes' Rule of Signs.

### UNIT - II

Newton's method of divisors, Solution of cubic and bi-quadratic equations, Cardon's method of solving a cubic, Discriminant and nature of roots of real cubic, Trigonometric solutions of a real cubic with real roots. Descartes' and Ferrari's method for a bi-quadratic.