# PART III MATHEMATICS HONOURS

## Course outcomes:

Name of the Course: Metric spaces

CO1 To study continuous functions on metric spaces.

CO 2. To learn connected metric spaces.

CO 3. To understand complete metric spaces.

CO 4. To study compact metric spaces.

### Name of the Course: Complex Analysis:

CO 1. It is widely used in Fluid Mechanics and Electrical engineering.

CO 2. To learn properties of complex numbers.

CO 3. To understand the use of complex numbers in the field of Calculus.

CO 4. To learn the importance of analytic functions.

CO 5. To gain knowledge of singularities and residues.

CO 6. To apply the knowledge of residues in complex integration.

### Name of the Course : Numerical Methods:

CO 1. It is used for solving a system of equations

CO 2. It has application in all branches of engineering.

CO 3. To know how to find the roots of transcendental equations.

CO 4.To learn how to interpolate the given set of values

CO 5. To understand the curve fitting for various polynomials

CO 6. To learn numerical solution of differential equations

### Name of the Course: Method of Real Analysis:

CO 1. It is a branch of pure mathematics.

CO 2. It is useful and Statistics, Probability, Operations Research, etc.

CO 3. To study sequences.

CO 4. To study series of real functions.

CO 5. To know the Fourier series.

CO 6. To study half range series.

## Name of the course : Optimization Techniques:

CO 1. Optimization techniques is a branch of Operations Research.

CO 2. It deals with minimization of cost or maximization of profit.

CO 3. It is used in Production engineering, Mathematics of finance, Networking, etc.

CO 4. To study linear programming problems.

CO 5. To learn about transportation problems.

CO 6. To know the fundamentals of game theory.

## Name of the Course: Applied Numerical Methods:

CO 1. It is a branch of numerical analysis

CO 2.It is used for solving a system of equations and used in all branches of engineering.

CO 3. To solve a system of linear equations.

CO.4.To learn numerical differentiation and integration.

CO.5. To learn about interpolation polynomials.

CO6. To apply numerical methods for differential equation.