

DEPARTMENT OF MATHEMATICS

COURSE OUTCOMES

Course	Outcomes
<p>B.Sc. - I Semester</p> <p><u>Algebra - 1.1</u></p> <p>Mathematical logic, Theory of equations, Matrices</p> <p><u>Calculus - 1.2</u></p>	<p>Enables the students to learn about mathematical logic in the study of theoretical computer science, polynomials, and algebraic equations, applications of matrices and determinants to solve equations.</p> <p>Enables the students to learn about successive differentiation in the field of engineering, partial derivatives, total derivative in the field of geometry, applied mathematics</p>
<p>B.Sc.- II Semester</p> <p><u>Algebra - 2.1</u></p> <p>Abstract Algebra, Sequences and series of real numbers</p> <p><u>Advanced Calculus - 2.2</u></p> <p>Differentiability, Integral calculus, line and multiple integrals and gamma and beta functions</p>	<p>Enables the students to learn about the properties implied by the definitions of groups and rings, use the definitions of convergence as they apply to sequences, series and functions.</p> <p>Enables the students to compute limits, derivatives of algebraic, trigonometric, inverse trigonometric, exponential and logarithmic functions.</p>
<p>B.Sc.-III Semester</p> <p><u>Algebra - 3.1</u></p> <p>Linear algebra, Rings, Integral domains and fields</p> <p><u>Differential Equations - 3.2</u></p> <p>Differential equation and Total Differential Equation</p>	<p>Enables the students to solve systems of linear equations, recognize the concepts of the terms span, linear independence, basis, and dimension and apply these concepts to various vector spaces and subspaces.</p> <p>It enables the students to solve differential equations of first order using graphical, numerical and analytical methods and solve and apply linear differential equations of second order.</p>
<p>B.Sc.-IV Semester</p> <p><u>Real and Complex Analysis - 4.1</u></p> <p>Complex Analysis and Real Analysis</p>	<p>Enables the students to apply the mean value theorems and the fundamental theorem of calculus to problems in the context of real analysis. To represent complex numbers algebraically and geometrically and to apply the</p>

<p><u>Special functions and PDE – I – 4.2</u> Special Functions and Partial Differential Equations - I</p>	<p>concept of C-R equations. It enables the students to recognize the major classifications of PDEs and to be competent in solving linear PDEs using classical solution methods.</p>
<p>B.Sc.- V Semester <u>Integral transforms</u> <u>Applied Mathematics – 5.2</u></p>	<p>Enables the students to recognize the different methods of finding Laplace transforms and Fourier transforms of different functions. They apply the knowledge of L.T, F.T in finding the solutions of differential equations, initial value problems and boundary value problems. It enables the students to learn about scalar and cross product of vectors in 2 and 3 dimensions represented as differential forms or tensors, the vector-valued functions of a real variable and their curves and intrinsic geometry.</p>
<p>B.Sc.-V Semester <u>Optional – I</u> <u>Graph Theory - I</u></p>	<p>Enables the students to model and solve real-world problems using graphs and trees, both quantitatively and qualitatively.</p>
<p>B.Sc.- VI Semester <u>Trigonometry, Topology and Fuzzy Sets – 6.1</u> <u>Numerical Analysis – 6.2</u></p>	<p>Enables the students to define and illustrate the concept of topological spaces and continuous functions and to define connectedness and compactness and to illustrate the concepts of separation axioms. It enables the students to derive numerical methods of approximating the solution of problems of continuous mathematics.</p>
<p>B.Sc. VI Semester <u>Optional – II</u> <u>Graph Theory - II</u></p>	<p>Enables the students to model and solve real-world problems using graphs and trees, both quantitatively and qualitatively.</p>
<p>Project Work</p>	<p>There is a project for B.Sc. VIth semester for 100 marks (70 for External and 30 for internal) of any one of the optional subjects of their choice.</p>