Programme Outcome (PO)

PO1. Science is directly related to Nature. Scientific studies provide deeper insights of understanding the natural phenomena.

PO2. To develop new technologies, solve practical problems and informed decisions.

Programme Specific Outcomes (PSO's)

BA/ BSc Mathematics

PSO1. Mathematics is a branch and key language of science that able to describe the real-world problems.

PSO2. To develop new mathematical theories and methods and to evolve the new branches of mathematics with co-exist of other branches of science and humanities.

PSO3. Computational knowledge in mathematics provides better insight and interest of the BSc Mathematics students.

Course Outcomes (CO's)

BSc/BA Mathematics (Major CBCS)

BSc/BA-I

C1.1. (Calculus)

CO1. Students will be able to use concepts of calculus such as limit, continuity, differentiation, integration in real life problems, formulation in mathematical models.

CO2. To sketch and plot the graph of various mathematical functions and curves.

C1.2. (Algebra)

CO1. To develop the various algebraic structures on sets.

CO2. To get deeper insight in Matrix algebra and able to apply the theory of matrix algebra in solving real world problems.

BSc/BA-II

C2.1. Real Analysis

CO1. To introduce the properties of the number system.

CO2. Describe the various analytical properties such as limit theorems, convergence theorems, convergence test etc.

C2.2. Differential equations

CO1. Students will introduce the new techniques in solving of ordinary differential equations of first order and then the higher order which are highly applicable in engineering problems, mathematical model used in real life problems.

CO2. To learn sketching and plotting of differential equations.

BSc/BA-III

C3.1. Theory of real functions

CO1. To learn the analytical aspects of mathematical concepts such as limit, continuity, derivatives, integration etc.

C3.2. Group Theory I

CO1. To describe various group structures on sets. To identify the group structures, present in different branches of sciences.

C3.3. PDE and Systems of ODE

CO1. Students will be able to develop mathematical formulations of various physical phenomena using partial differential equations and their solutions.

CO2. To solve systems of linear differential equations related to real world problems using analytical, numerical, and graphical techniques.

BSc/BA-IV

C4.1. Numerical Methods

CO1. To better understandings of the numerical methods such as Bisection, Newton-Raphson etc., and their applications in engineering fields.

C4.2. Riemann Integration and Series of Functions

CO1. To develop a deep and rigorous understanding of Riemann Integration, Beta and Gamma functions, Series of functions, and theorems related to series convergence.

C4.3. Ring Theory and Linear Algebra I

CO1. The course gives rigorous and thorough analytical concepts and applications of various aspects of linear algebra and analysis with applications.

CO2. Extension of group theory will be learned. Basics of Ring theory, geometric structures, and their links to other branches of mathematics will be taught.

BSc/BA-V

C5.1. Multivariable Calculus

CO1. To develop a deep and rigorous understanding of Functions of several variables, Line integral, Double Integral, Surface Integral, Volume Integral, and their applications.

C5.2. Group Theory II

CO1. To learn the more concepts of group theory based on preliminary theories.

CO2. Application of group theory in the various field of sciences will learn.

DSE1.1 Analytical Geometry

CO1. Introductory concepts of parabola, ellipse and hyperbola and their sketching.

CO2. To solve mathematical problems using analytical geometry techniques.

DSE1.3 Financial Mathematics

CO1. Students will learn to apply the basic concepts of mathematics in the field of Economics, Finance, and Industry.

DSE2.2 Mechanics

CO1. To develop the mathematical background of mechanics that predict the effects of force and motion.

DSE2.3 Number Theory

CO1. To gain knowledge more about number theory and hence to solve Diophantine equations.

CO2. To define the number theoretic functions.

BSc/BA-VI

C6.1. Metric Space and Complex Analysis

CO1. To explore the concepts of Topological structures and the generalize theory of Real analysis.

CO2. Students will enable to understand the general theory of complex analysis such as Analytic function, Complex Integrals, Power Series, Poles and Residues.

C6.2 Ring Theory and Linear algebra II

CO1. Students will acquaint with some extensions theory of rings to solve physical problems.

CO2. To understand the relationship between operations of linear transformations and corresponding matrices.

DSE3.1 Hydromechanics

CO1. To introduce and explain fundamentals of fluid mechanics which provide the methods for studying the phenomena of physical sciences.

DSE3.2 Linear programming

CO1. To provide a rigorous and complete development of the theoretical and computational aspects of linear programming as well as discussion of several practical applications.

DSE4.1 Mathematical Methods

CO1. Students will learn to analyse and design of continuous time signals and systems using Laplace's and Fourier transformations.

DSE4.3 Probability and Statistics

CO1. Students will learn how to organize and summarized the data through statistical methods. To Assess the strengths of the conclusions and evaluate the uncertainty of physical phenomena using probabilistic concepts.