DEPARTMENT OF MATHEMATICS

Programme Outcomes :

- Enabling students to develop a positive attitude towards mathematics as an interesting and valuable subject of study.
- A student should get a relational understanding of mathematical concepts and concerned structures, and should be able to follow the patterns involved, mathematical reasoning.
- Ability to analyze a problem, identify and define the computing requirements, which may be appropriate to its solution.
- Introduction to various courses like group theory, ring theory, field theory, metric spaces, number theory.
- Enhancing students' overall development and to equip them with mathematical modeling abilities, problem solving skills, creative talent and power of communication necessary for various kinds of employment.
- Ability to pursue advanced studies and research in pure and applied mathematical science.

Programme Specific Outcomes:

- Think in a critical manner.
- Know when there is a need for information, to be able to identify, locate, evaluate, and effectively use that information for the issue or problem at hand.
- Formulate and develop mathematical arguments in a logical manner.
- Acquire good knowledge and understanding in advanced areas of mathematics and statistics, chosen by the student from the given courses.
- Understand, formulate and use quantitative models arising in social science, Business and other contexts.

Course Outcomes :

S.No	Semester	Course	Credits	Course Outcomes
1	I	Differential & Integral Calculus	5	Gain Knowledge of fundamental concepts of real numbers.Verify the value of the limit of a function at a point using the definition of the limit Introduction to sequence and series.Learn to check function is continuous understand the consequences of theintermediate value theorem for continuous
2	II	Differential Equations	5	Student will be able to solve first order differential equations utilizing the standard techniques for separable, exact, linear, homogeneous, or Bernoulli

				cases.Student will be able to find the complete solution of a nonhomogeneous differential equation as a linear combination of the complementary function and a particular solution.Student will have a working knowledge of basic application problems described bysecond order linear differential equations
3	III	Real Analysis	5	Student will be to understand differentiation and fundamental theorem in differentiation and various rules.Geometrical representation and problem solving on MVT and Rolls theorem.Finding extreme values of function.Describe fundamental properties of the real numbers that lead to the formal development of real analysis.Comprehend rigorous arguments developing the theory underpinning real analysis.Demonstrate an understanding of limits and how they are used in sequences, series,Construct rigorous mathematical proofs of
4	IV	Algebra	5	Learn to solve system of linear equation.Learn to solve Diophantine equation.Learn to find roots of polynomial over rational.Learn to find graphs, roots and primes integer using maxima software.Introduction to complex analysis.Understand the importance of algebraic properties with regard to working within various number systems.Extend group structure to finite permutation groups (Caley Hamilton Theorem).Generate groups given specific conditions.
5	V	Linear Algebra	5	Introduction to vector space and subspace.Use computational techniques and algebraic skills essential for the study of systems of Linear equations, matrix algebra, vector spaces, eigenvalues and eigenvectors,Orthogonality and Diagonalization.
6	V	General Elective(Mathematics for Economics and Finance)	4	Learn to solve the linear system of equations by factorisation, elimination method.We will apply logarithms & exponentials in economic problems.Students use the Cramer's rule,elimination

				method to solve the linear system of equations.
7	VI	Numerical Analysis	5	To apply appropriate numerical methods to solve the problem with most accuracy.Using appropriate numerical methods determine approximate solution of ODE and system of linear equation.Compare different methods in numerical analysis w.r.t. accuracy and efficiency of solution.
8	VI	Mathematical Modelling	4	Demonstrate an understanding on how mathematical techniques are useful to approach economic theory and practice.Explain how mathematical techniques are applied in economics & business and used as a decision making tools.