Department: Mathematics

Programme Specific Outcomes

Programme offered by the Department	Outcomes
B.SC MAJOR	On completion of the Programme, the students are expected to achieve the following outcomes: PSO1 : Demonstrating comprehensive knowledge of mathematics, interdisciplinary areas, and recent innovations in a multidisciplinary context, connecting relevant disciplines with learning disciplines of choice. PSO2:The individual possesses the ability to effectively communicate mathematical concepts through computational, graphical, and geometrical methods, as well as critical reading and critical analysis of texts. PSO3. Recall basic facts about mathematics and acquire knowledge of mathematics helping him to develop mathematical mind. PSO4. It is expected that the knowledge and the skill acquired during this curriculum will translate them to a different sphere of mental health and they will easily cope up with higher studies. PSO5.The ability to analyze and interpret mathematical ideas, formulate questions and design research proposals, while also developing methodology and demonstrating results. PSO6. Going through this course, students should bebold enough mentally to face any competitive examination in future.
B.SC MINOR	On completion of the Programme, the students would be able to PSO1. Recall basic facts about mathematics and should be able to display knowledge of conventions such as notations, terminology. PSO2. Students should apply their skills and knowledge to daily life problems. PSO3. Enabling students to develop a positive attitude towards mathematics as an interesting and valuable subject of study. PSO4. It is expected that the knowledge and the skill acquired during this curriculum will translate them to a different

	sphere of mental health and they will easily cope up with higher studies. PSO5. Apply Mathematics as a tool to solve problems of other disciplines viz., Science and Technology, Commerce and Management, Humanities, Soft computing etc.
B.SCMDC	Upon completion of B.Sc. Mathematics Degree programme, the students will be able to PSO1. Recognize the importance and value of Mathematical thinking, training and approach to problems solving on a diverse variety of disciplines. PSO2. Inculcate the knowledge of basic properties of real numbers and convergence in finding approximate solutions to theoretical and practical problems PSO3. It is expected that the knowledge and the skill acquired during this curriculum will translate them to a different sphere of mental health and they will easily cope up with higher studies. PSO4. Acquire good knowledge and understanding in advance area of Mathematics. PSO5. Apply the concepts of Mathematics to real life problems.

Course Outcomes

B.SC MAJOR			
Semester	Course Code	Course Title	Outcome
I	MATHMAJ101	Classical Algebra and Matrix Theory	The primary objective of this course is to introduce the basic tools of complex numbers, theory of equations, matrices and matrix method of solution of homogeneous linear equations . Learn the basic concepts of exponential, logarithmic and hyperbolic functions of complex numbers. Row reduced form and row reduced echelon form of a matrix will help to find the rank of a matrix, rank of a

			nullspace, row space and column space of a matrix. Congruence will help to find the normal form of a square matrix and find the signature and index of a matrix. To learn to find Eigen values and Eigen vectors of a matrix which isused in the study of vibrations, chemical reactions and geometry. Understand the properties of integers, gcd, lcm of numbers and also the congruence relationship between integers
I	MATHMAJ102	Calculus and Geometry	Learn the applications of differential and integral calculus such as finding asymptotes, envelopes, inflexion points, reduction formulae, finding arc length, area and volume of revolution, also identify and calculate indeterminate form. Find the parametric equation, polar equation and also pedal equation of a curve. Understand the concept of two and three dimensions and transient behaviours of some known curves and surfaces such as straight line, plane, spheres, conicoid.
II	MATHMAJ203	Real Analysis	Understand many properties of the real number system $\mathbb{R}$ and learn to define sequence in terms of functions from $\mathbb{R}$ to a subset of $\mathbb{R}$. Recognize bounded, convergent, divergent, Cauchy and monotonic sequences and to calculate their limit superior, limit inferior and limit of a bounded sequence. Enable the students to assimilate the notions of limit of a sequence and convergence of a series of real numbers. To equip students with basic mathematical notions such as open and closed sets, neighbourhood of

			a point and their properties. Understand the notions of limit, continuity, uniform continuity and their properties
II	MATHMAJ204	Differential Equations	Many real world practical problems can be converted into Differential Equation. So it is one of the most important section in the context of Applied Mathematics. The specific outcomes are to know about the existence and uniqueness of solution, Particular integral, Complementary function etc. Also in this topic several practical problems are formed by the Differential Equation and solved. Lipschitz conditions and Picards theorem will definitely struck a student's mind about existence of a solution of differential equation. They will learn higher order linear differential equations. They will learn variation of parameters and method of undetermined coefficients. The notion of equilibrium points and phase plane will really make them agile mind.

B.SC MINOR			
Semester	Course Code	Course Title	Outcome
I	MATHMIN101	Classical Algebra and Matrix Theory	The primary objective of this course is to introduce the basic tools of complex numbers, theory of equations, matrices and matrix method of solution of homogeneous linear equations . Learn the basic concepts of exponential, logarithmic and hyperbolic functions of complex numbers. Row reduced form and row reduced echelon form of a matrix will help to find the rank of a matrix, rank of a

			nullspace, row space and column space of amatrix. Congruence will help to find the normal form of a square matrix and findthe signature and index of a matrix. To learn to find Eigen values and Eigen vectors of a matrix which isused in the study of vibrations, chemical reactions and geometry.
II	MATHMIN202	Calculus and Geometry	Learn the applications of differential and integral calculus such as finding asymptotes, envelopes, inflexion points, reduction formulae, finding arc length, area and volume of revolution, also identify and calculate indeterminate form. Understand the concept of two and three dimensions and transient behaviours of some known curves.

B.SC MDC			
Semester	Course Code	Course Title	Outcome
I	MATHDSC101/ MATHMIN101	Classical Algebra and Matrix Theory	The primary objective of this course is to introduce the basic tools of complex numbers, theory of equations, matrices and matrix method of solution of homogeneous linear equations . Learn the basic concepts of exponential, logarithmic and hyperbolic functions of complex numbers. Row reduced form and row reduced echelon form of a matrix will help to find the rank of a matrix, rank of a nullspace, row space and column space of amatrix. Congruence will help to find the normal form of a square matrix and findthe signature and index of a matrix. To learn to find Eigen values

			and Eigen vectors of a matrix which isused in the study of vibrations, chemical reactions and geometry.
II	MATHDSC202/ MATHMIN202	Calculus and Geometry	Learn the applications of differential and integral calculus such as finding asymptotes, envelopes, inflexion points, reduction formulae, finding arc length, area and volume of revolution. Also identify and calculate indeterminate form. Understand the concept of two and three dimensions and transient behaviours of some known curves.