B.SC Mathematics(Honors)
Program outcomes (POs) listed as follows:-

1. Ability to acquire in-depth knowledge of algebra, calculus, geometry, differential equations and several other branches of mathematics. This also leads to study of related areas like computer science and physical science. Thus, this Program helps learners in building a solid foundation for higher studies in mathematics.
2. The skills and knowledge gained has intrinsic beauty, which also leads to proficiency in analytical reasoning. This can be utilized in modelling and solving real life problems.
3. To recognize patterns and to distinguish between essential and irrelevant aspects of problems.
4. Utilize mathematics to solve theoretical and applied problems by critical understanding, analysis and synthesis.
5. Ability to share ideas and insights while seeking and benefitting from knowledge and insight of others. This helps them to learn behave responsibly in a rapidly changing interdependent society.
6. Ability to communicate mathematics effectively by written, computational and graphic means.
7. Create mathematical ideas from basic axioms.
8. Ability to apply multivariable calculus tools in physics, economics, optimization, and understanding the architecture of curves and surfaces in plane and space etc.
9. Able to present mathematics clearly and precisely, make vague ideas precise by formulating them in the language of mathematics, describe mathematical ideas from multiple perspectives and explain fundamental concepts of mathematics to non-mathematicians
10. This Program will also help students to enhance their employability for jobs in banking, insurance and investment sectors, data analyst and in various other public and private enterprises.

COURSE OBJECTIVES & COURSE OUTCOMES

S.No.	COURSE OBJECTIVES	COURSE OUTCOMES
	B.SC MATH(Honors) – 1st SEMESTER	
1.	**Paper: Algebra**	

	1. Understand General Equation of second degree, tracing of conics. 2. Find equation of cone with given base, equation of cylinder and its properties. 3. Get an idea of central conicoid, parabola, plane section of conicoids. 4. Get an idea of Paraboloid sand generating lines.	1. Students will be able to perform basic matrix algebra. 2. Students will be able find eigen values and eigenvectors of matrix. 3. Students will be able to find solutions of system of linear equations. 4. Students will be able to find out the roots of equation from the relation between the roots of two equations.:
2.	**Paper: Calculas**	
	1. To understand the function, its limits and properties 2. To understand Asymptotes, Curvatures cusps. 3. To trace out curves and solve equations of curves. 4. To understand Quadrature and Sectorial area.	1 Students can calculate and verify the limit of functions and will able to find discontinuity of functions and can classify them. 2. Students will able to identify the centre and circle of curvature and can describe the types of cusps 3. Students will trace the curve by understanding the rectification, intrinsic equations of curve. 4. Students can use the Pappu's and Guilden Theorems in solid revolutions. Understand the mathematical basis of probability and its applications in various fields of life.
3.	**Paper: Solid Geometry**	
	1. Understand General Equation of second degree, tracing of conics. 2. Find equation of cone with given base, equation of cylinder and its properties. 3. Get an idea of central conicoid, parabola, plane section of conicoids. 4.Get an idea of Paraboloid sand generating lines	1.Student will be able to understand General Equation of second degree, tracing of conics. 2.Student will be able to find equation of cone with given base, equation of cylinder and its properties. 3. Student will be able to get an idea of central conicoid, parabola, plane section of conicoids. 4.Student will be able to get an idea of Paraboloids and generating lines.
4	**Paper: Discrete Mathematics – I**	

	1. To introduce the concept of Mathematical logic. 2. To introduce the concept of sets, relations, function. 3. To perform the operations related to sets , relation and function. 4. To familiar with the concept of counting principle, permutation and combination , logic , generating function and recurrence relation. 5. To relate practical examples to the appropriate set, function and interpret the associated operations and terminology in context.	1. Apply Mathematical logic to solve problems. 2.Understand sets, relations, function and discrete structure. 3. Use the logical notation to define and reason about fundamental mathematical concept such as sets, relation and function 4.Solve recurrence relations and formulate the problem.
5	**Paper: Descriptive Statistics- I**	
	1. To tabulate statistical information given in descriptive form and to use graphical techniques to interpret. 2.To compute various measures of central tendency, dispersion, skewness and kurtosis. 3.To Compute and interpret values like: Range, Quartile, Sample, Population, and Standard Deviation. 4. To understand the relationship between the variables, correlation coefficient and rank correlation.	1. Students will be able to draw the descriptive statistics for the data and interpret the data with the appropriate graphs. 2. Learn how to calculate measures of central tendency and measures of dispersion. 3. Gain the knowledge of skewness and kurtosis. 4.Evaluating and interpreting accurately the results of correlation and rank correlation problems.
6.	**Paper: Computer Fundamental and MS OFFICE**	
	1. Give students an in-depth understanding of why computers are essential components in business, education and society. 2. -Introduce the fundamentals of computing devices and reinforce computer vocabulary, particularly with respect to personal use of computer hardware and software, the Internet, networking and mobile computing. 3. Provide hands-on use of Microsoft Office 2013 applications Word, Excel, Access and PowerPoint. Completion of the assignments will result in MS Office applications knowledge and skills.	1. Describe the usage of computers and why computers are essential components in business and society.. 2. Solve common business problems using appropriate Information Technology applications and systems. 3. Describe various types of networks network standards and communication software. 4. Identify categories of programs, system software and applications. Organize and work with files and folders.
7.	**Paper: English-I**	

	1.To enhance the level of literary and aesthetic experience of students and to help them respond creatively. 2. To provide the students with an ability to build and enrich their communication skills. 3. To help them think and write imaginatively and critically. 4. To sensitize students to the language, forms and types of poetry, fiction, prose, and drama	1.Apply the concepts of accurate English while writing and become equally at ease in using good vocabulary and language skills. 2. Understand the importance of pronunciation and apply the same day to day conversation. 3. Able to spot the common grammatical errors related to Sentence Structure, Preposition, Concord, Relative and Conditional Clauses, and Parallel Structures. 4.The learner should be efficient to construct a context-determined text in addition to learning Technical Writing Skills.