DEPARTMENT OF MATHEMATICS

B.CS. WITH MAJOR IN MATHEMATICS

(NON-CBCS)

COURSE CODE	COURSE TITLE	OBJECTIVE AND/OR EXPECTED LEARNER OUTCOMES
MM 101	**(A) CLASSICAL ALGEBRA** **(B) TRIGONOMETRY** **(C) VECTOR CALCULUS**	To infuse the classical ideas of algebraic and analytic structures. The students can have a deeper insight of the developments of the generalized notions of Trigonometry. The students will have an orientation towards the vectorial notations of multivariable calculi.
MM 201	**(A) MATRICES** **(B) ORDINARY DIFFERENTIAL EQUATIONS** **(C) NUMERICAL ANALYSIS**	Students will be able to use matrix methods for solving liners equations, have ideas on the basics of differential equations and also about the numerical methods of obtaining results where complexity of obtaining analytical solutions is sufficiently high.
MM 301	**(A) ANALYSIS-I (REAL ANALYSIS)**	Students will be able to identify the analytical aspects of Mathematical concepts.
MM 302	**(A) CO-ORDINATE GEOMETRY**	The students will be have a deeper understanding of Co-ordinate geometry and a broader insight towards the analytical aspects of Mathematics.
MM 401	**(A) COMPUTER PROGRAMMING (C-PROGRAMMING)** **(B) COMPUTER LAB (C-PROGRAMMING, MATLAB)**	Students will be able to formulate simple programmes for numerical evaluation of computational problems. By Computer Laboratory, they will be exposed to a hand on experience on various Mathematical Software.

MM 402	**(A) LINEAR PROGRAMMING PROBLEM** **(B) ANALYSIS-II(MULTIPLE INTEGRAL)**	Students will be able to determine the Mathematical know how of linear programming problems of Operations Research and also to solve then using LPP techniques. Students will be exposed to he further analytical aspects of Mathematical concepts.
MM 501	**(A) LOGIC AND COMBINATORICS** **(B) ANALYSIS-III**	Students will be able to identify the basics of Mathematical Logic and that of the counting principles. Students will be allowed to have insights to more generalized analytical aspects.
MM502	**(A) LINEAR ALGEBRA** **(B) NUMBER THEORY**	Students will be able to use algebraic structures for explaining geometric concepts. Students will be exposed to the fundamentals of Numbers and their properties.
MM 503	**(A) FLUID MECHANICS**	Students will be introduced to the fundamental concepts of Fluid Mechanics and its various applications in Physical Sciences.
MM 504	**(A) MECHANICS** **(B) INTEGRAL TRANSFORMATION**	Students will be introduced to the Mathematical background of Mechanics and the corresponding problem-solving techniques.
MM 601	**(A) METRIC SPACE** **(B) STATISTICS**	Students will be exposed to the Topological Structures and the generalization concepts arising out of Real Analysis.
MM 602	**(A) DISCRETE MATHEMATICS** **(B) GRAPH THEORY**	The students will be able to identify the relations between Mathematics and Theoretical Computer Science. Students will be introduced to the fundamentals of Graph Theory and different representations of a Graph for practical applications.
MM 603	**(A) ALGEBRA II** **(B) PARTIAL DIFFERENTIAL EQUATIONS**	Students will be able to identify the characteristics of Abstract Algebraic Structures and also can have ideas on the basics of partial differential equations.
MM 604	**GROUP (A)** **(A) FINANCIAL MATHEMATICS** **(B) OPERATIONS RESEARCH**	Students will be introduced to the application of Mathematical principles to the problems of Financial Mathematics and Operations Research.
	GROUP (B)	Students will be introduced to the application of Mathematical

	(A) SPACE DYNAMICS **(B) RELATIVITY**	principles to the problems of Space Dynamics and Relativity.

B.SC. NONMAJOR

SL NO.	SUBJECT	COURSE CODE	COURSE TITLE	OBJECTIVE AND/OR EXPECTED LEARNER OUTCOMES
1.	Mathematics [Non-Major (NM)]	**NM 101**	**(D) CLASSICAL ALGEBRA** **(E) TRIGONOMETRY** **(F) VECTOR CALCULUS**	To infuse the classical ideas of algebraic and analytic structures. The students can have a deeper insight of the developments of the generalized notions of Trigonometry. The students will have an orientation towards the vectorial notations of multivariable calculi.
		NM 201	**(D) MATRICES** **(E) ORDINARY DIFFERENTIAL EQUATIONS** **(F) NUMERICAL ANALYSIS**	Students will be able to use matrix methods for solving liners equations, have ideas on the basics of differential equations and also about the numerical methods of obtaining results where complexity of obtaining analytical solutions is sufficiently high.
		NM 301	**(B) CO-ORDINATE GEOMETRY** **(C) ANALYSIS-I (REAL ANALYSIS)**	The students will be havea deeper understanding of Co-ordinate geometry and a broader insight towards the analytical aspects of Mathematics.
		NM 401	**(C) LINEAR PROGRAMMING PROBLEM** **(D) COMPUTER LAB (MATLAB, MATHEMATICA)**	The students will be able to formulate and solve various practical models using Linear Programming techniques and also by using Computer Laboratory they will attain computational proficiency in dealing with Mathematical Software.
		NM 501	**ANALYSIS-II (COMPLEX**	The students will be able to understand the analytical

			ANALYSIS)	perspective of the complex number system. The students will be able to identify the applicable domain of Mathematics in Physical Sciences.
		NM 601	**GROUP (A)** **(C) ABSTRACT ALGEBRA** **(D) ELEMENTARY STATISTICS**	Students will be able to identify the characteristics of Abstract Algebraic Structures and also can obtain insights of statistical tools for solving various practical problems.
			GROUP (B) **(A) DISCRETE MATHEMATICS** **(B) METRIC SPACE**	The students will be able to identify the relations between Mathematics and Theoretical Computer Science and also have a detailed idea on Metric Spaces as a prelude to the Topological concepts.