

**DEPARTMENT OF MATHEMATICS**

**COURSE OUTCOME (CO)-CBCS SYSTEM**

**YEAR OF INTRODUCTION:**

**B.A./B.SC. (HONOURS): CORE COURSES (CC)**

<b>COURSE CODE</b>	<b>COURSE NAME</b>	<b>COURSE OUTCOME</b>
<b>SEMESTER 1</b>		
CC- 1	CALCULUS, GEOMETRY AND VECTOR ANALYSIS	To acquaint students with the basic knowledge of calculus, geometry and vector algebra.
CC- 2	ALGEBRA	To provide students with the know ledge of Complex number, theory of equation, inequalities, number theory,rank of matrix and their application.
<b>SEMESTER 2</b>		
CC- 3	REAL ANALYSIS	To provide students with detailed understanding in real numbers, sequences and sub-sequences along with idea of convergence of infinite series.
CC- 4	GROUP THEORY-I	To give a detailed idea of normal sub-group and knowledge of homomorphism, isomorphism of groups, quotient group etc.
<b>SEMESTER 3</b>		
CC- 5	THEORY OF REAL FUNCTION	To update students with the ideas of Real Analysis.
CC- 6	RING THEORY & LINEAR ALGEBRA-I	It introduces for basic conception of modern and linear algebra of the students
CC- 7	ORDINARY DIFFERENTIAL EQUATION AND MULTIVARIATE CALCULUS-I	It introduces for basic knowledge of the said topic such that they can apply it in mathematical methods of physical problems

<b>SEMESTER 4</b>		
CC- 8	RIEMANN INTEGRATION & SERIES OF FUNCTIONS	To enable students with the depth know ledge of real analysis
CC- 9	PARTIAL DIFFRENCIAL EQUATION AND MULTIVAREATE CALCULUS-II	To teach the method of solution of partial differentialequation.
CC- 10	MECHANICS	Express more and more physical phenomenon in mathematics and their graph
<b>SEMESTER 5</b>		
CC- 11	PROBABILTYAND STATISTICS	Application of probability theory in everyday life is reliability and in business it used in the calculation of longterm gains and losses
CC- 12	GROUP THEORY-II & LINEAR ALGEBRA-II	Group can be found in geometry representing phenomenon such as symmetry and certain type of transformation
<b>SEMESTER 6</b>		
CC- 13	METRIC SPACE & COMPLEX ANALYSIS	In mathematics, a metric space is a set where a distance is defined between elements of a set. Metric space method have been employedfor decades in various application , for example in internet search engines, image classifications etc
CC- 14	NUMERICA L METHODS	Student can know that it is used for computer science for root finding Also they can know that it is used for multi dimensional root finding

**B.A./B.SC. (HONOURS): SKILL ENHANCEMENT COURSE (SEC)**

<b>COURSE CODE</b>	<b>COURSE NAME</b>	<b>COURSE OUTCOME</b>
<b>SEMESTER 3</b>		
SEC-A-1	C-PROGRAMING	This course is designed to develop basic C-programing skill of the students. This helps them to prepare for numerical practical for upcoming semester.
<b>SEMESTER 4</b>		
SEC-B-1	MATHEMATICAL LOGIC	To enhance the skill about mathematical logic this course is very useful, as this is needed in every step of higher mathematics.

**B.A./B.SC. (HONOURS): ELECTIVE: DISCIPLINE SPECIFIC (DSE)**

<b>COURSE CODE</b>	<b>COURSE NAME</b>	<b>COURSE OUTCOME</b>
<b>SEMESTER 5</b>		
DSE-A-1	ADVANCED ALGEBRA	The course is designed to enhance the knowledge on algebra. This helps the students to get an overview about post graduate mathematics
DSE-B-1	LINEAR PROGRAMMING AND GAME THEORY	Linear programming provides a method to optimize operations within certain constraints. It is used to make process efficient and cost effective. Some areas of application for linear programming include food and agriculture

<b>SEMESTER 6</b>		
DSE-A-2	FLUIDSTATICS AND ELEMENTARY FLUID DYNAMICS	Fluid mechanics has a wide range of applications in mechanical and chemical engineering, in biological systems, and in astrophysics.
DSE-B-4	ADVANCED MECHANICS	Understand the mathematical and physical foundations of the continuum mechanics of solids, including deformation and stress measures, elastic and plastic stress-strain relations, and failure criteria; have the ability to pose and solve boundary value problems involving deformable solids; be able to analyze wave propagation and vibrations in elastic solids and understand the theoretical basis for finite element analysis of elastic solids.

### **Programme Outcome**

- **Students will be entirely equipped with the knowledge of all the branches of Mathematics.**
- **Their logical skill will be improved.**
- **Practical knowledge on application of different branches of mathematics is enhanced.**
- **Students would have a strong understanding of using mathematical tools of Algebra and Calculus.**
- **Students will be equipped with mathematics skills and techniques which can be applied in both academic and non-academic areas of work.**
- **Students will have placements scopes in academic areas include jobs as teaching faculties in schools, colleges, business schools, training schools**
- **Students will have placements scopes in research positions in different research institutes.**
- **Students will have placements scopes in non – academic areas include jobs in sectors like banks, insurance, public services, IT and other technological areas.**

H.O.D., Dept of Mathematics