

**GOVERNMENT DEGREE COLLEGE
DEPARTMENT OF MATHEMATICS
B.Sc MATHEMATICS
REVISED SYULLABUS FOR CORE COURSES**

PROGRAMME OUTCOMES

PO1	To develop problem solving ability in students.
PO2	Students will acquire basic understanding of the concepts and problem solving skills along with domain knowledge of different methods in Geometry.
PO3	Students will become employable; they will be eligible for career opportunities in Industry, or will be able to opt for entrepreneurship using abstract Algebraic skills.
PO4	Students will possess basic subject knowledge required for higher studies, professional And applied courses like Applied mathematics ,Operation research, Mathematical Analysis etc.
PO5	Students will be aware of and able to develop solution oriented approach towards Various Theoretical issues and problem solving abilities.

PROGRAMME SPECIFIC OUTCOMES

PSO1	A student should be able to recall basic facts about mathematics and should be able to display knowledge of conventions such as notations ,terminology in differential equations.
PSO2	A student should get adequate exposure to global and local concerns that explore them many aspects of Solid Geometry.
PSO3	Student is equipped with mathematical modeling ability, problem solving skills, creative talent and power of communication necessary for various kinds of employment using Algebraic structures.
PSO4	Student should be able to apply their skills and knowledge of Real Number systems that analyze information presented into mathematical form, select and use appropriate mathematical formulae or techniques in order to process the information and draw the relevant conclusion.
PSO5	Enabling students to develop a positive attitude towards mathematics as an interesting and valuable subject of study of Linear Algebra.

Course outcomes

Course : Semester I - Differential Equations

Students after successful completion of the course will be able

CO1: After successful completion of this course, the student will be able to; Solve linear differential equations.

CO2: Convert non exact homogeneous equations to exact differential equations by using integrating factors.

CO3: Know the methods of finding solutions of differential equations of the first order but not of the first degree.

CO4: Solve higher order linear differential equations, both homogeneous and non homogeneous with constant coefficients.

CO5: Understand the concept and apply appropriate methods for solving differential equations.

Course: Semester II – Three Dimensional Analytical Solid Geometry

Students after successful completion of the course will be able

CO1: To get the knowledge of planes.

CO2. To learn basic idea of lines, sphere and cones.

CO3. To understand the properties of planes, lines, spheres and cones.

CO4. To express the problems geometrically and then to get the solution.

Course : Semester III – Abstract Algebra

CO1: To acquire the basic knowledge and structure of groups, subgroups and cyclic groups.

CO2: To get the significance of the notation of a normal subgroups.

CO3: To get the behaviour of permutations and operations on them.

CO4: To study the homomorphisms and isomorphisms with applications.

CO5: To understand the ring theory concepts with the help of knowledge in group theory and to prove the theorems.

CO6: To understand the applications of ring theory in various fields.

Course: Semester IV - Real Analysis

Students after successful completion of the course will be able

CO1: To get clear idea about the real numbers and real valued functions.

CO2: To obtain the skills of analyzing the concepts and applying appropriate methods for testing convergence of a sequence/series.

CO3: To test the continuity and differentiability and Riemann integration of a function.

CO4: To know the geometrical interpretation of mean value theorems.

Course: Semester IV (paper-5) – Linear Algebra

Students after successful completion of the course will be able

CO1: To understand the concepts of vector spaces, subspaces, bases, dimension and their properties.

CO2: To understand the concepts of linear transformations and their properties.

CO3: To apply Cayley-Hamilton theorem to problems for finding the inverse of a matrix and higher powers of matrices without using routine methods

CO4: To learn the properties of inner product spaces and determine orthogonality in inner product spaces.

Course: Semester V (paper 6A) – Numerical Methods

Students after successful completion of the course will be able

CO1: To understand the subject of various numerical methods that are used to obtain approximate solutions.

CO2: To understand various finite difference concepts and interpolation methods.

CO3: To work out numerical differentiation and integration whenever routine methods are not applicable.

CO4: To find numerical solutions of ordinary differential equations by using various numerical methods.

CO5: To analyze and evaluate the accuracy of numerical methods.

Course : Semester V (paper-7A) – Special Functions

Students after successful completion of the course will be able

CO1: To understand the Beta and Gamma functions, their properties and relation between these two functions, understand the orthogonal properties of Chebyshev polynomials and recurrence relations.

CO2: To find power series solutions of ordinary differential equations.

CO3: To solve Hermite equation and write the Hermite polynomial of order (degree) n , also find the generating function for Hermite polynomials, study the orthogonal properties of Hermite polynomials and recurrence relations .

CO4: To solve Legendre equation and write the Legendre equation of first kind, also find the generating function for Legendre polynomials, understand the orthogonal properties of Legendre polynomials.

CO5: To solve Bessel equation and write the Bessel equation of first kind of order n , also find the generating function for Bessel function understand the orthogonal properties of Bessel function.

GOVT.DEGREE COLLEGE FOR MEN, SRIKAKULAM

DEPTMENT OF MATHEMATICS

CO-PO AWARENESS PROGRAMME



