Govt. Digvijay Autonomous P.G. College, Rajnandgaon

Department of Mathematics

B.Sc. (Mathematics)

Course Outcome

First Year:

On completion of the course, students will be able to

(1) Develop the knowledge of algebraic skill essential for the study of systems of matrix algebra, linear equations, eigen values and eigen vectors.
(2) Apply mathematical methods involving arithmetic, algebra, geometry and graphs to solve problems.
(3) Develop the knowledge for applying the concept and principles of Differential and integrals to solve problems.
(4) Develop the skill of computation of integral using Gauss's, Divergence and Stoke's theorems.
(5) Integrate functions of several variables over curves and surface.
(6) Demonstrate the knowledge of the basic concepts of Geometry.
(7) Solve algebraic equations of up to degree four.

Second Year:

On completion of the course, students will be able to

(1) Develop the knowledge of the fundamental tools of calculus such as limit, sequence, continuity and differentiability of functions of two variables.
(2) Identify a general method for constructing solutions of homogeneous linear differential equations with constant coefficients.
(3) Distinguish between partial differential equation and ordinary differential equation.
(4) Solve problems of motion of a particle in rough and smooth plane.
(5) Develop the knowledge of Kepler's Law of motion.

Third Year:

On completion of the course, students will be able to

(1) Understand the concept of vector space and inner product space.
(2) Develop the knowledge of fundamental concepts of complex variables.
(3) Understand improper integrals.
(4) Understand the basic principle of Boolean algebra, set theory and logic.
(5) Describe computer programs in formal Mathematical manner.
(6) Develop the knowledge of numerical method for approximating the solution of problems of Mathematics.

Govt. Digvijay Autonomous P.G. College, Rajnandgaon
Department of Mathematics
M.Sc. (Mathematics)
Course Outcome

First Semester:

On completion of the course, students will be able to

(1) Demonstrate knowledge and understanding of fundamental concepts of Algebra including groups, subgroups, normal subgroups, homomorphism and isomorphism.
(2) Describe fundamental properties of the real numbers and real-valued functions.
(3) Understand the concept of topological space.
(4) Analyze sequence and series of analytic function and type of convergence.
(5) Construct simple mathematical proof and possess the ability to verify them discrete mathematics.

Second Semester:

On completion of the course, students will be able to

(1) Critically analyze and construct mathematical argument related to the study of abstract algebra.
(2) Construct Mathematical proof of basic results in real analysis.
(3) Understand the concept of product topological space.
(4) Think critically by proving mathematical results and establishing theorems from complex analysis.
(5) Model and solve real world problems using graphs.

Third Semester:

On completion of the course, students will be able to

(1) Understand the fundamental of measure theory and be acquainted the proofs of the fundamental theorems of underlying the theory of integration.
(2) Recognize the major classification of PDEs and the qualitative difference between the classes of equations.
(3) Develop the knowledge of C Programming.
(4) Create linear programming models for assignment and transportation problems.
(5) Develop the knowledge of fuzzy sets, fuzzy operations and fuzzy graphs.

Fourth Semester:

On completion of the course, students will be able to

(1) Explain fundamental concepts of functional analysis and their role in modern Mathematics.
(2) Propose the best strategy using decision making models under uncertainty and game theory.
(3) Implement file operations in C Programming for a given application.
(4) Develop mathematical skills to analyze and solve integer programming and network models arising from the a range of applications.
(5) Develop the knowledge of application of fuzzy sets.