

Department of Mathematics

Programme Outcome

The Programme at U.G level aims to provide a foundation for pursuing research in mathematics as well as to provide essential quantitative skills to those interested in different competitive examinations.

P & O (Programme specific outcome)

On successful completion of the course students will be able to participate in scientific research & industrial activities.

Also they can apply their knowledge in different field of science and Engineering.

Department of Mathematics.

Course Outcome.

CP-I Calculus

→ This course is equip the student with necessary analytic and technical skills to handle problems of mathematical nature as well as practical problems.

→ Can explore the different tools for higher order derivatives, to plot the various curves and to solve the problem associated with differentiation and integration of vector field.

After completing the course

Students

1. I nk Mathematics

are able to study, the geometry of various types of functions, evaluate the area, volume using the techniques of integration.

CP-2 : Discrete Mathematics

- This course is equip the students with basic counting principles, set theory and logic, matrix theory and graph theory.
- After ~~the~~ completing the course, students able to study advance courses in Mathematical modelling, computer science, statistics, physics, chemistry etc.

CP-3 : Real Analysis

- The ~~objective~~ course is equip the students have the knowledge on basic properties of the field of real numbers, the sequence and series of real numbers and its convergence.
- Can able to handle fundamental properties of real numbers that lead to the formal development of real analysis.
- After completing the course, students will appreciate how abstract ideas and rigorous methods in mathematical analysis can be applied to important practical problems.

CP-4 : Differential Equation

- The course is equip the students to familiarize the students with various methods of solving differential equations and to have a qualitative applications through models.

Students

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- Can able to Model problem in nature using Ordinary differential equation.
- After completing the course, this is prerequisite for studying the course and Model dealing with Partial differential equation.

CP-5: Theory of Real Functions

- The course is equip the students to deal with real functions and understand uniform continuity, mean value theorem.
- Can have knowledge on the concepts and theorem of the elementary calculus of functions of one real variable.
- After completing the course students can use derivatives to analyze and sketch the graph of a function of one variable.

CP-6: Group Theory

- The course is equip to introduce students to basic concepts of group theory and examples of group and their properties.
- Can get the idea of concept and examples of groups and their properties.
- After completing the course, students can opt for courses in ring theory, field theory, commutative algebras, linear classical groups etc.
- Students can apply this knowledge to problems in

Teacher's Signature.....

physics, computer science, economic and engineering.

CP-7: Partial differential equation & system of ODE

- This course is equip the students to understand basic methods for solving Partial Differential Equation of first order and second order.
- Can learn classification of partial differential equation and systems of ordinary differential equation.
- After completing the course, students able to take more more course on wave equation, heat equation, diffusion equation, gas dynamics, non-linear evolution equation etc.
- Students can use their applications for solving boundary value problem.

CP-8: Numerical methods & Scientific Computing

- This course is equip the students to acquaint with various numerical methods of finding solution of different type of problems.
- Can handle physical problems to find approximate solution, and determine the effect of round off error or loss of significance.
- After completing the course students able to use mathematical software in getting accuracy one need from computer and assess reliability of numerical results.

CP-9: Topology of Metric spaces

- This course is equip the students to impart knowledge on open sets, closed set, continuous functions, connectedness & compactness in metric spaces.
- After completing the course students will learn to work with abstract topological spaces.

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CP-10: Ring Theory

- This course is equip the students with basic of ring theory.
- After completing the course, students continue more courses on advanced Ring theory modules, Galois groups.

CP-11: Multivariate Calculus

- This course is equip the student to introduce functions of several variable.
- Can understand double and triple integrals along with line integrals which are fundamental to all streams where calculus can be used.
- After completing the course, students able to do numerical computations involving several variables.

CP-12: Linear Algebra

- This course is equip the students in finding real life applications.
- Can introduce the basics of linear algebra and some of its application.
- After completing the course students use their applications in computer science, finance mathematics, industrial mathematics, bio mathematics etc.

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CP-13: Complex Analysis

- This course is equip the students in finding real life application.
- Can introduce to the theories of functions of a complex variable.
- After completing the course students will be able to handle certain integrals and know a technique for counting the zeros of polynomials.

DSE-I (Linear Programming)

- This course is equip to the students to familiarize industrial problem with various method of solving Linear Programming Problems.
- Can apply the Linear programming method in game theory.
- After completing the course, students can study advance courses in Nonlinear programming problems, Inventory Control problem & Queuing Theory etc.

DSE-II (Probability & Statistics)

- This course is expertise the student to the extensive role of statistics in everyday life and computer.
- The students shall learn probability and statistics for various random variables, multivariate distribution, correlations & regressions.

DSE-III Differential geometry

- The course is equip to the students the geometry of curves and surfaces which teaches a student using tools in calculus to derive the intrinsic properties.
- Students will learn relation between tangent, normal & binormal ideas on various curvatures etc.