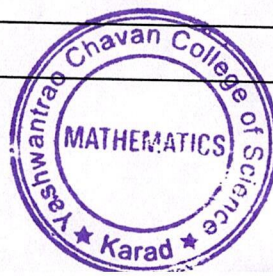


PO's for B.Sc. Mathematics are as follows

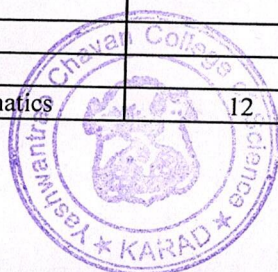
PO1	To demonstrate basic manipulative skills.
PO2	Scientific temper will be developed in Students.
PO3	To apply the underlying unifying structures of Mathematics and the relationships among them.
PO4	To demonstrate proficiency in writing proofs
PO5	To communicate mathematical ideas both orally and in writing.
PO6	Students will become employable; they will be eligible for career opportunities in Industry, or will be able to opt for entrepreneurship.
PO7	Students will possess basic subject knowledge required for higher studies, professional and applied courses like Management Studies, Law etc.
PO8	To investigate and solve unfamiliar mathematical problems.
PO9	Students will be aware of and able to develop solution oriented approach towards various Social and Environmental issues.
PO10	Students will acquire basic Practical skills & Technical knowledge along with domain knowledge of different subjects in the science stream.

Name of the programme	Sr. No. for courses	Course code	Course Name	Course Outcome
B.Sc. Mathematics	1	DSC – A5	Calculus	Upon successful completion of the course, students will be able to: Evaluate the limit and examine the continuity of a function at a point. Understand the consequences of mean value theorems for differentiable functions Apply Leibnitz theorem to obtain higher derivatives of product of two differentiable functions
B.Sc. Mathematics	2	DSC – A6	Differential Equations	Understand types of differential equations. Solve different types of ordinary differential equations. Understand applications of differential equations.
B.Sc. Mathematics	3	DSC – B5	Multivariable Calculus	Learn conceptual variations while advancing from one variable to several variables in calculus compute gradient, directional derivatives. Set up and solve optimization problems involving several variables. Learn the concept of Jacobian of a transformation.
B.Sc. Mathematics	4	DSE -B6	Basic Algebra	determine n th roots of unity. understand various properties of hyperbolic functions. explore algebraic properties of matrices. solve system of linear equations solve examples on congruence
B.Sc. Mathematics	5	DSC – C5	Elements of Differential Equations	identify types of higher order ordinary differential equations. solve different types of higher order ordinary differential equations understand geometrical interpretation of simultaneous and total differential equations

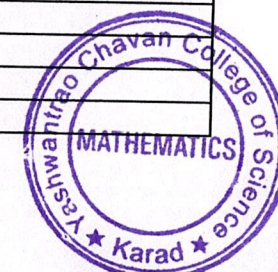


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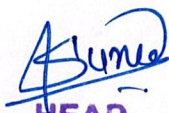
B.Sc. Mathematics	6	DSE – C6	Numerical Methods	find numerical solutions of algebraic, transcendental and system of linear equations. learn about various interpolating methods to find numerical solutions. find numerical solutions of integration and ODE by using various methods apply various numerical methods in real life problems.
B.Sc. Mathematics	7	DSE – D5	Vector Calculus	understand and evaluate the concepts of gradient, divergence and curl of point functions in terms of cartesian co-ordinate system. understand and evaluate different types of line, surface & volume integrals and the two integral transformation theorems of Gauss and Stokes
B.Sc. Mathematics	8	DSE – D6	Integral Calculus	understand special functions. understand types of multiple integrals apply special functions in applications. apply multiple integrals in real life problems
B.Sc. Mathematics	9	DSE – E9	Mathematical Analysis	The integration of bounded function on a closed and bounded interval Some of the families and properties of Riemann integrable functions The applications of the fundamental theorems of integration Extension of Riemann integral to the improper integrals when either the interval of integration is infinite or the integrand has infinite limits at a finite number of points on the interval of integration The expansion of functions in Fourier series and half range Fourier series
B.Sc. Mathematics	10	DSE – E10	Abstract Algebra	Basic concepts of group and rings with examples Identify whether the given set with the compositions form Ring, Integral domain or field. Understand the difference between the concepts Group and Ring. Apply fundamental theorem, Isomorphism theorems of groups to prove these theorems for Ring Understand the concepts of polynomial rings, unique factorization domain.
B.Sc. Mathematics	11	DSE – E11	Optimization Techniques	provide student basic knowledge of a range of operation research models and techniques, which can be applied to a variety of industrial and real life applications. Formulate and apply suitable methods to solve problems. Identify and select procedures for various sequencing, assignment, transportation problems. Identify and select suitable methods for various games . To apply linear programming and find algebraic solution to games.
B.Sc. Mathematics	12	DSE – E12	Integral Transforms	understand concept of Laplace Transform.

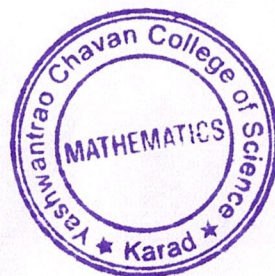



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				apply properties of Laplace Transform to solve differential equations.
				understand relation between Laplace and Fourier Transform.
				understand infinite and finite Fourier Transform.
				apply Fourier transform to solve real life problems
B.Sc. Mathematics	13	DSE – F9	Metric Spaces	acquire the knowledge of notion of metric space, open sets and closed sets.
				demonstrate the properties of continuous functions on metric spaces.
				apply the notion of metric space to continuous functions on metric spaces
				understand the basic concepts of connectedness, completeness and compactness of metric spaces
				appreciate a process of abstraction of limits and continuity to metric spaces
B.Sc. Mathematics	14	DSE – F10	Linear Algebra	understand notion of vector space, subspace, basis.
				understand concept of linear transformation and its application to real life situation.
				work out algebra of linear transformations.
				appreciate connection between linear transformation and matrices.
				work out eigen values, eigen vectors and its connection with real life situation.
B.Sc. Mathematics	15	DSE – F11	Complex Analysis	learn basic concepts of functions of complex variable
				be introduced to concept of analytic functions.
				learn concept of complex integration and basic results thereof.
				be introduced to concept of sequence and series of complex variable.
				learn to apply concept of residues to evaluate certain real integrals
B.Sc. Mathematics	16	DSE – F12	Discrete Mathematics	use classical notions of logic: implications, equivalence, negation, proof by contradiction, proof by induction, and quantifiers.
				apply notions in logic in other branches of Mathematics.
				know elementary algorithms : searching algorithms, sorting, greedy algorithms, and their complexity.
				apply concepts of graph and trees to tackle real situations.
				appreciate applications of shortest path algorithms in computer science.


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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.

PSO2: A student should get adequate exposure to global and local concerns that explore them many aspects of mathematical sciences.

PSO3 : Student is equipped with mathematical modeling ability, problem solving skills, creative talent and power of communication necessary for various kinds of employment.

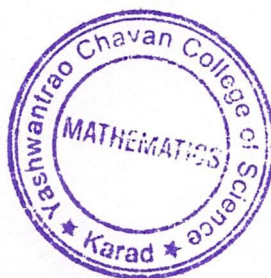
PSO4: Student should be able to apply their skills and knowledge that is translate information presented verbally into mathematical form, select and use appropriate mathematical formulae or techniques in order to process the information and draw the relevant conclusion.

PSO5: Enabling students to develop a positive attitude towards mathematics as an interesting and valuable subject of study.




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