

Shri Swami Vivekanand Shikshan Sanstha, Kolhapur
LAL BHADUR SHASTRI COLLEGE OF ARTS, SCIENCE AND COMMERCE,
SATARA

Department of Mathematics

Course Outcome

Sr. No.	Class	Paper (Course)	Course Outcome
1.	B.sc. Part-I	Paper – I Calculus	1. Evaluate the limit and examine the continuity of a function at a point. 2. Understand the consequences of mean value theorems for differentiable functions. 3. Apply Leibnitz theorem to obtain higher derivatives of product of two differentiable functions.
2.	B.sc. Part-I	Paper – II Differential Equations	1. Understand types of differential equations. 2. Solve different types of ordinary differential equations. 3. Understand applications of differential equations.
3.	B.sc. Part-I	Multivariable Calculus	1. Learn conceptual variations while advancing from one variable to several variables in calculus. 2. Set up and solve optimization problems involving several variables. 3. Learn the concept of Jacobian of a transformation
4.	B.sc. Part-I	Basic Algebra	1. Use fundamental concepts in Mathematics like sets, relations and functions. 2. Use fundamental concepts in Number theory. 3. Solve examples on congruence. 4. Determine nth roots of unity. 5. Understand various properties of hyperbolic functions.
5.	B.sc. Part-II	Elements OF Differential Equations	1. Identify types of higher order ordinary differential equations. 2. Solve different types of higher order ordinary differential equations 3. Understand geometrical interpretation of simultaneous and total differential equations.
6.	B.sc. Part-II	Numerical Methods	1. Find numerical solutions of algebraic, transcendental and system of linear equations. 2. Learn about various interpolating methods to find numerical solutions. 3. Find numerical solutions of integration and ODE by using various methods. 4. Apply various numerical methods in real life problems.
7.	B.sc. Part-II	Vector Calculus	1. Understand and evaluate the concepts of gradient, divergence and curl of point functions in terms of Cartesian co-ordinate system. 2. Understand and evaluate different types of line, surface & volume integrals and the two integral transformation theorems of Gauss and Stokes.
8.	B.sc. Part-II	Integral Calculus	1. Understand special functions. 2. Understand types of multiple integrals. 3. Apply special functions in applications.



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Sr. No.	Class	Paper (Course)	Course Outcome
1.	B.sc. Part-III	Mathematical Analysis	<ol style="list-style-type: none"> 1. The integration of bounded function on a closed and bounded interval 2. Some of the families and properties of Riemann integrable functions 3. The applications of the fundamental theorems of integration 4. 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 5. The expansion of functions in Fourier series and half range Fourier series
2.	B.sc. Part-III	Abstract Algebra	<ol style="list-style-type: none"> 1. Basic concepts of group and rings with examples 2. Identify whether the given set with the compositions form Ring, Integral domain or field. 3. Understand the difference between the concepts Group and Ring. 4. Apply fundamental theorem, Isomorphism theorems of groups to prove these theorems for Ring. 5. Understand the concepts of polynomial rings, unique factorization domain.
3.	B.sc. Part-III	Optimization Techniques	<ol style="list-style-type: none"> 1. 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. 2. Formulate and apply suitable methods to solve problems. 3. Identify and select procedures for various sequencing, assignment, transportation problems. 4. Identify and select suitable methods for various games. 5. To apply linear programming and find algebraic solution to games.
4.	B.sc. Part-III	Integral Transforms	<ol style="list-style-type: none"> 1. Understand concept of Laplace Transform. 2. Apply properties of Laplace Transform to solve differential equations. 3. Understand relation between Laplace and Fourier Transform. 4. Understand infinite and finite Fourier Transform. 5. Apply Fourier transform to solve real life problems.
5.	B.sc. Part-III	Metric Spaces	<ol style="list-style-type: none"> 1. Acquire the knowledge of notion of metric space, open sets and closed sets. 2. Demonstrate the properties of continuous functions on metric spaces, 3. Apply the notion of metric space to continuous functions on metric spaces. 4. Understand the basic concepts of connectedness, completeness and compactness of metric spaces, 5. Appreciate a process of abstraction of limits and continuity to metric spaces.
6.	B.sc. Part-III	Linear Algebra	<ol style="list-style-type: none"> 1. Understand notion of vector space, subspace, basis. 2. Understand concept of linear transformation and its application to real life situation. 3. Work out algebra of linear transformations. 4. Appreciate connection between linear transformation and matrices. 5. Work out eigen values, eigen vectors and its connection with real life situation.
7.	B.sc. Part-III	Complex Analysis	<ol style="list-style-type: none"> 1. Learn basic concepts of functions of complex variable. 2. Be introduced to concept of analytic functions. 3. Learn concept of complex integration and basic results thereof. 4. Be introduced to concept of sequence and series of complex variable. 5. Learn to apply concept of residues to evaluate certain real integrals.
8.	B.sc. Part-III	Discrete Mathematics	<ol style="list-style-type: none"> 1. use classical notions of logic: implications, equivalence, negation, proof by contradiction, proof by induction, and quantifiers. 2. apply notions in logic in other branches of Mathematics. 3. know elementary algorithms : searching algorithms, sorting, greedy algorithms, and their complexity. 4. apply concepts of graph and trees to tackle real situations.

