

**Pandurang Gramin Vikas Pratisthan Sanchalit,
Dilip Valase Patil College ,Nimgaon Sawa 410504.**

Department of Mathematics

Course Outcomes of Offered Courses:

Sr.No.	Course	Course Outcomes
1	F.Y.B.Sc. -Algebra and Analytical Geometry	Upon successful completion of this course the student will be able to: <ul style="list-style-type: none">• Solve results involving divisibility and greatest common divisors;• Solve systems of linear equations• Apply Euler-Fermat's Theorem to prove relations involving prime numbers;• Polynomial addition, subtraction, division, multiplication, roots of polynomials.• Transformation, translation and reflection;• To find nature of general conics.• Find equation of spheres, cylinders and cones
2	F.Y.B.Sc.- Calculus I and Calculus II	Upon successful completion of this course the student will be able to: <ul style="list-style-type: none">• Prove simple identities and inequalities• Be able to calculate limits• Be able to calculate limits at infinity• Be able to discuss the continuity• Be able to calculate limits in

		<p>indeterminate forms by a repeated use of L'Hospital's rule</p> <ul style="list-style-type: none"> • Be able to use derivatives to find intervals on which the given function is increasing or decreasing • Understand the concept of Differential Equation • Be able to use Differential Equation to find Orthogonal Trajectories.
3	<p>S. Y. B. Sc. (Sem III)</p> <p>Calculus of several variables</p>	<p>Upon successful completion of this course the student will be able to:</p> <ul style="list-style-type: none"> • Compute domain and range of functions • Draw level curves of functions • Find limits and continuity of functions • Find partial derivatives • Find higher derivatives • Compute chain rule in differentiation • Define functions of several variables and their limits • Calculate the partial derivatives of functions of several variables • Apply the chain rule for functions of several variables • Calculate the gradients and directional derivatives of functions of several variables • Solve problems involving tangent planes and normal lines • Determine the extrema of functions of several variables • Use the Lagrange multiplier method to find extrema of functions with constraints.

4	S.Y.B.Sc. (Sem III) Numerical methods and its Applications	<p>On successful completion of this course unit students will be able to:</p> <ul style="list-style-type: none"> • Find errors • To rounding off numbers n significant digits, to n decimal places. • To find Solution of Algebraic and Transcendental Equations. • Use Interpolation to fit tabular data in algebraic equation. • Fit straight line, second degree polynomial from tabular data. • Find area under the curve by using Numerical Integration. • Find solution of first order ordinary differential equations.
5	S.Y.B.Sc. (Sem IV) Linear Algebra	<p>On successful completion of this course unit students will be able to:</p> <ul style="list-style-type: none"> • Understand the basic ideas of vector algebra: linear dependence and independence and spanning; • Know how to find the row space, column space and null space of a matrix, and be familiar with the concepts of dimension of a subspace and the rank and nullity of a matrix, and to understand the relationship of these concepts to associated systems of linear equations; • Be familiar with the notion of a linear transformation and its matrix; • Find the Gram-Schmidt orthogonalization of a matrix.

6	S.Y.B.Sc. (Sem IV) Vector Calculus	<p>On successful completion of this course unit students will be able to:</p> <ul style="list-style-type: none">• Find limit and continuity of vector valued functions• Find derivatives of vector valued functions• Find integrals of vector valued functions• Find arc length along a space curve• Find line integral of scalar functions• Find line integrals of vector fields• Find work done and flow• Study divergence theorem, stokes theorem• Find surface integrals
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