



JAI HIND COLLEGE

Basantsing Institute of Science & J. T. Lalvani College of Commerce.
and Sheila Gopal Raheja College of Management.

Autonomous

Program Name: Bachelor of Science (B.Sc in Mathematics)

PROGRAM OBJECTIVES:

PO1: To Inculcate interest in learning Mathematics.

PO2: To Create a strong mathematical background.

PO3: To Demonstrate the fundamental abstract topics.

PO4: To make them familiar with key concepts and ideas.

PO5: To Introduce the notions of rigor and proof.

PO6: To Develop critical thinking.

PO7: To Develop analytical reasoning

PO8: To enhance their ability to recognize the patterns.

PO9: To generate the ability to solve problems.

PO10: To help students gain self-awareness and spirituality by spending more time with nature.

PO11: To make them skill to apply mathematical methods and procedures in the Mathematical related fields.

PO12: To embark knowledge of software to aid in problem solving.

PO13: To Motivation towards higher studies and research.

PO14: To Enhance the scope of employability.

PO15: To make them awareness towards professional ethics and responsibility.

COURSE OUTCOMES:

CO1: Describe different properties of the real line. Analyze convergent and Cauchy sequences.

CO2: Identify the functions which are injective, surjective, or bijective. Apply the modular arithmetic to solve problems. Use Fundamental theorem of Arithmetic to find GCD and LCM.

CO3: Recall and apply the concepts. Identify the patterns in the given problems. Analyze the problems.

CO4: Apply the concepts of continuous and differentiable functions and their properties in solving problems.

CO5: To solve system of equations and polynomials and their roots.

CO6. Apply the concepts and identify the patterns in the given problems. Analyze the problems.

CO7: Apply different tests to find convergence or divergence of a series. Distinguish the conceptual variations while advancing from one variable to several variables.

CO8: Evaluate vector spaces and their properties and Relate matrices and linear transformations.

CO9: Summarize the basic terms of statistics such as measures of central tendency and dispersion. Recall the concept of probability and study probability distributions.

CO10: Apply the concepts and identify the patterns in the given problems. Analyze the problems.

CO11: Identify Riemann Integrable functions and their properties. Apply the fundamental theorems of integration.

CO12: To implement properties of inner product spaces and Compute Eigenvalues and Eigenvectors of linear transformations.

CO13: To Hypothesis Testing and Apply central limit theorem. Understand supervised and unsupervised machine learning.

CO14: Identify the patterns in the given problems. Analyze the problems.

CO15: Calculate line integral, surface integral, volume integral. Identify the importance of Green, Gauss and Stokes' theorem in problem solving.

CO16: Recognize and implement the mathematical objects called Groups. Learn the notions of

cosets, normal subgroups, and factor groups. Analyze consequences of Lagrange's theorem.

CO17: Describe several concepts of metric spaces and their properties. Understand the concepts such as open and closed set, interior, closure, and boundary.

CO18: Understanding Data Warehousing, Data mining. Apply various algorithms in supervised and unsupervised machine learning to real world problems.

CO19: Understand basic structures of the python and R-programming. Develop concise programs.

CO20: Apply the concepts of the concepts of theorem

CO21: Organize and relate similar problems

CO22: Judge the problems and find the solution

CO23: Summarize the basic concepts of complex analysis like analytic functions and harmonic functions.

CO24: Describe rings, ideals, integral domains, fields

CO25: Develop idea about compactness and connectedness of metric spaces.

CO26: Compose the image processing through Convolution Neural Networks.

CO27: Extract and import packages for developing python programming.

CO28: Implement the problems in real world objects using the concept of OOPS.

CO29: Use continuous functions to describe the structure of metric spaces.

CO30: Determine integrals using Cauchy's Integral formula.