Department of Mathematics
Govt. College Nagrota Bagwan (H.P)
Program Specific Outcome

The Bachelor's Degree in B.Sc. Mathematics is awarded to the students after qualifying all the courses prescribed in the course program. The mission of the mathematics degree program is to equip students with analytic and problem solving skills for career. Classes develop student abilities and aptitudes to apply mathematical methods and ideas not only to problems in mathematics and related fields such as the sciences, computer science or statistics but also into their day to day life. Students learn to communicate ideas effectively and to digest new information and concepts independently. Students are sought to acquire mathematical knowledge, understanding, skills and attitude and hence developing mathematical thinking.

Mathematics is the study of quantity, structure, space and change. It has very broad scope in science, engineering and social sciences. Bachelor's degree in mathematics is the culmination of in-depth knowledge of Calculus, Differential Equations, Algebra, Real Analysis, Numerical methods, linear programming methods and several other branches of mathematics.

Program Specific Outcome of B.Sc. Mathematics:

1. Development of mathematical thinking.

2. Familiarize the students with suitable tools of mathematical analysis to handle issues and problems in mathematics and related sciences.

3. Acquire good knowledge and understanding to solve specific theoretical and applied problems in advanced areas of mathematics and statistics.

4. Provide students sufficient knowledge and skills enabling them to undertake further studies in mathematics and its allied areas on multiple disciplines concerned with mathematics.

5. Encourage the students to develop a range of mathematical skills helpful in employment, internships and social activities.

Thus, this program helps learners in building a solid foundation for higher studies in mathematics. Students undergoing this program learn to logically question assertions, to recognise patterns and to distinguish between essential and irrelevant aspects of problems. Students completing this program will be able to present mathematics clearly and precisely, make vague ideas precise by formulating them in the language of mathematics and explain fundamental concepts of mathematics to non-mathematicians. This program will also help students to enhance their employability for government jobs, jobs in banking, insurance and investment sectors, data analyst jobs and jobs in various other public and private enterprises.

Principal
Govt. Post Graduate College
Nagrota Bagwan (Kangra)

Course Outcome:

B.Sc /B.A 1st Year

Sr.No.	Subject Code	Subject	Subject category	Course Outcome
1	MATH101TH	Differential Calculus	DSC	This course will enable the students to: Calculate the limit and examine the continuity of a function at a point. Understand the consequences of various mean value theorems for differentiable functions. Sketch curves in Cartesian and polar coordinate systems. After completing the course one will be able to analyse that how the changing conditions affect us. One will be able to find maxima and minima, critical points, points of inflection, concavity and convexity of data curves.
2	MATH102TH	Differential Equations	DSC	This course will enable the students to: Understand the genesis of ordinary differential equations. Learn various techniques of getting exact solutions of solvable first order differential equations and linear differential equations of higher order. One will be able to classify the differential equations with respect to their order and able to solve first order higher degree equations solvable for x, y, p . Various laws of physics and chemistry can be explained with the help of differential equations.

B.Sc /B.A 2nd Year

Sr.no.	Subject Code	Subject	Subject category	Course Outcome
1	MATH201TH	Real Analysis	DSC	This course will enable the students to: Understand the properties of the real numbers, sequence and series of real numbers and functions, bounded, monotonic, convergent, divergent, sequences, limit superior, limit inferior, limit of a sequence. The concept of sequence and series helps to predict, evaluate and monitor the outcome of a situation or event to assist in decision making.
2	MATH202TH	Algebra	DSC	The course will enable the students to: Classify mathematical objects called groups, subgroups, permutation groups, cyclic groups, normal subgroups, ring, field and integral domain .Study of groups helps in geometry representing the phenomena of symmetry.
3	MATH309TH	Integral Calculus	SEC	After completing this course, students will be able to evaluate indefinite and definite integrals. Integrals are used to find area under the curve, area bounded by the curves, surface area and volume.
4	MATH310TH	Vector Calculus	SEC	This course will enable the students to: Understand the concept of scalar and vector product of three and four vectors. It also includes the study of Gradient, divergence and curl of vector and scalar fields. These are fundamental for fluid flow particularly compressible mediums.

BSc/B.A 3rd Year

Sr.no.	Subject Code	Subject	Subject category	Course Outcome
1	MATH303TH	Linear Algebra	DSE	This course will enable the students to: Understand the concept of vector spaces, basis , dimensions linear transformations, linear operators, linear transformations, linear operators, linear functional and spectral theory. Linear algebra is the fundamental of geometry for defining lines, planes and rotations.
2	MATH304TH	Numerical Methods	DSE	This course will enable the students to: Learn various numerical methods to find approximate solutions to algebraic and transcendental equations. , system of linear equations, interpolation, initial value problems and definite integrals.
3	MATH313TH	Probability and statistics	SEC	This course will enable the students to: Understand various laws of probability, Mathematical expectations various distributions such as Bernoulli, Binomial, Poisson, Normal and Uniform Distribution. Students learn the science of collection, analysis and interpretation of data.
4	MATH317TH	Transportation and Game Theory	SEC	This course will enable the students to: Learn linear programming techniques to find the optimal solution of transportation problems, assignment problems and game theory. It helps students to learn resource management, production planning, and inventory control assignment system and allocations problems.