

Program outcomes

Name of the program: B.Sc. (Hons.)

Upon successful completion of the B.Sc. (Hons) program, students will be able to –

PO1:	Gain a thorough and in-depth knowledge in the discipline of science by enhancing problem-solving skills to resolve day to day problems.
PO2	Acquire through understanding about scientific methods and apply these in solving scientific problems by analysing practical data using qualitative and quantitative methods
PO3	Can develop scientific models to solve problems in different fields like health, industry etc. and can carry out research projects independently or in collaboration with other institutions or industries.
PO4	Develop scientific, communicative, and numerical skills and make rewarding careers in science and education by facing challenging competitive exam.
PO5	Acquire innovative ideas through practical experiments and illustrate a commitment to inter-disciplinary thinking

Program specific outcomes

Name of the program: Mathematics Hons

PSO1	Gain a strong knowledge in different areas of mathematics and solve real life problems by constructing and solving mathematical models.
PSO2	Acquire numerical skill and logical thinking and apply these in facing competitive examinations, internships with confidence.
PSO3	Gain scientific knowledge and skills which enables them to undertake further studies in Mathematics, Statistics or its allied areas.
PSO4	Pursue research in the field of Mathematics, Engineering, Information Technology, Computer Science and Social Science
PSO5	Apply knowledge of principles, concepts, and results in specific subject area to analyse their impact both locally and globally.
PSO6	Enhance problem-solving skills to resolve day to day problems.

Course outcomes

Semester -I

Course code: BMH1CC01

Course Name: Calculus, Geometry, and differential equations

SL. No	Outcomes	PSO addressed
CO1	Recall the idea of derivative, integration, rules of differentiation and understand the concept of formulating differential equations.	PSO1
CO2	Will be able to solve different kinds of differential equations.	PSO1
CO3	Demonstrate the ability to visualize various forms of straight lines, planes, conic sections and enables them to apply these concepts in explaining mathematical theories geometrically.	PSO4
CO4	Apply the concepts of differentiation to estimate velocity, acceleration, and integration like measuring area of a surface, volume etc.	PSO6
CO5	Know hyperbolic functions and compare these functions with circular functions, trigonometric functions, inverse trigonometric functions and learn their properties.	PSO3

Semester -II

Course code: BMH2CC03

Course Name: Real Analysis

SL.No.	Course outcome	PSO Addressed
CO1	Learn the basic concepts of countable sets, metric space, connectedness, compactness of metric spaces, which are the backbone of real analysis.	PSO5
CO2	Understand the techniques and examples in analysis, which helps them to be well prepared for courses like Topology, Measure theory and Functional analysis.	PSO3
CO3	Using the concept of sequence and series find the sum of infinite terms with different methods.	PSO2

CO4	Differentiate continuous functions and uniform continuous functions	PSO2
CO5	Understand iterative numerical methods to find the roots of an equation, which are based on the concept of sequence.	PSO4
CO6	Explain the applicability of mathematical models using the concepts of real analysis	PSO1

Semester -III

Course code: BMH2CC07

Course Name: Numerical Methods and numerical methods lab

SL.No.	Course outcome	PSO Addressed
CO1	Understand the necessity of using numerical methods apply these to solve various types of problems	PSO1
CO2	Find roots of transcendental and polynomial equations using numerical techniques	PSO2
CO3	Solve mathematical models using appropriate numerical methods and pursue research in the field of mathematics, engineering, computer science.	PSO4
CO4	Constructs polynomials employing different methods and understand numerical differentiation and integration which enables them to undertake further studies in Mathematics, or its allied areas.	PSO3
CO5	Compare the rate of convergence of different numerical formula	PSO2
CO6	Understand C programming language and can solve problems using C-programming software	PSO4

Semester -IV

Course code: BMH4SEC21

Course Name: Graph theory

SL.No.	Course outcome	PSO Addressed
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CO1	Understand the concept of Graphs, which is an important tool for Mathematical Modelling	PSO1
CO2	Understand different types of graphs and operations on graphs	PSO2
CO3	Relate real life problems or events with mathematical graphs	PSO6
CO4	Understand the concept of trees and algorithms to find special spanning trees	PSO3
CO5	Understand directed graphs and its applications	PSO2

Semester - V

Course code: BMH5DSE12

Course Name: Number theory

SL.No.	Course outcome	PSO Addressed
CO1	Apply mathematical induction and other types of techniques to prove theorems or mathematical results.	PSO1
CO2	Apply the concepts and results of divisibility of integers effectively	PSO2
CO3	Understand research problems related to number theory	PSO4
CO4	Learn various theorems on primes, congruence and residues which are used in cryptography.	PSO3
CO5	Solve problems related to Chinese remainder theorem, Fermat's Little theorem	PSO2

Semester -VI

Course code: BMH6PW01

Course Name: Project

SL.No.	Course outcome	PSO Addressed
CO1	Choose a topic of their own interest	PSO4
CO2	Formulate, analyse, and interpret mathematical models	PSO1
CO3	Build confidence and develop communication skills through the presentation of their project work	PSO2

CO4	Get preliminary concept of research in mathematics	PSO4
CO5	Gain in-depth knowledge independently in the specific topic	PSO3
CO6	Understand the core findings of their project and their applicability in practice	PSO5