

DEPARTMENT OF MATHEMATICS

SUBJECT: MATHEMATICS

COURSE OUTCOME

B.Sc Mathematics course student will be able to understand the depth knowledge of various topics of mathematics such as Algebra, calculus, geometry and several other branches of mathematics. It helps learners in building a solid foundation for higher studies in mathematics. One also gets proficient in logical and analytical reasoning, which in turn, can be utilised in modelling and solving real life problems. The programme will also help students to enhance their employability in various public and private enterprises.

B.Sc PROGRAMME

FIRST YEAR

SEMESTER –I

Title of Paper	Differential & integral calculus
Course code	BS:101
Credits	5
Total Hours	56

On completion of this course the students will be able to:

CO1: Explain the relationship between the derivative of a function as a function and the notion of the derivative as the slope of the tangent line to a function at a point.

CO2: To able to calculate limits in indeterminate form by a repeated use of L' Hospital rule.

SECOND SEMESTER-II

Title of paper	Differential Equations
Course code	BS:201
Credits	5
Total Hours	56

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On completion of this course the students will be able to:

CO1: Distinguish between linear, nonlinear, partial and ordinary differential equations.

CO2: Solve basic application problems described by second order linear differential equations with constant coefficient.

SECOND YEAR

SEMESTER-III

Title of paper	Real Analysis
Course code	BS:301
Credits	5
Total Hours	56

On completion of this course the students will be able to:

CO1: Give the essence of the proof of bolzanoweistrass theorem the contraction theorem as well as existence of convergent subsequence using continuity.

CO2: Evaluate the limits of wide class of real sequences.

CO3. Determine whether or not real series are convergent by comparison with standard series or using the ratio test.

SEMESTER-IV

Title of paper	Algebra
Course code	BS:401
Credits	5
Total Hours	56

On completion of this course the students will be able to:

CO1: Students will be able to determine whether a given group is Abelian by checking the properties.

CO2: Students will be able to describe all elements in a cyclic subgroup by using generators.

CO3: Students will be able to understand the homomorphism by using the relationship between groups.

III YEAR

SEMESTER-V

Title of paper	Linear Algebra
Course code	BS:501
Credits	5
Total Hours	56

On completion of this course the students will be able to:

CO1: understand the combination of two important aspects of modern mathematics via Linear Algebra and Vector Calculus.

CO2: Linear Algebra emphasizes the concept of vector spaces and Linear transformations which are essential in simplifying various scientific problems.

SEMESTER-V

Title of paper	Solid Geometry
Course code	BS:506
Credits	3+2
Total Hours	56

On completion of this course the students will be able to:

CO1: understand the properties of Sphere, cones and cylinder.

CO2: Express the problems geometrically and can solve it.

SEMESTER-VI

Title of paper	Numerical Analysis
Course code	BS:601/A
Credits	5

Total Hours	56
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On completion of this course the students will be able to:

CO1: solve an algebraic or transcendental equation using an appropriate numerical method.

CO2: Able to solve a linear system of equations using an appropriate numerical method.

SEMESTER –VI

Title of paper	Vector Calculus
Course code	BS 606
Credits	3+2
Total Hours	56

On completion of this course the students will be able to:

CO1: students can evaluate line integrals, surface area and surface integrals.

CO2: Students can determine gradients, divergence ,curl and flux of vector fields.