



**DriveEdumax  
Academy**

# Mathematics

Curriculum for Grade XII

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## **Class 12 : Mathematics Curriculum Overview**

The Class 12 Mathematics curriculum is designed to equip students with the fundamental concepts and applications necessary for advanced studies in commerce, economics, and related fields. This curriculum is divided into two textbooks, Mathematics Part I and Mathematics Part II, covering a range of topics from relations and functions to probability, integrals, and linear programming.

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### **Textbook 1: Mathematics Part I**

#### **1. Relations and Functions**

Introduction to relations, functions, and their types. The chapter also covers the composition of functions and invertible functions.

#### **2. Inverse Trigonometric Functions**

This chapter explores the basic concepts and properties of inverse trigonometric functions, which are essential for calculus.

#### **3. Matrices**

Understanding different types of matrices, operations on matrices, and properties like the transpose, symmetric, and skew-symmetric matrices. The concept of invertible matrices is also discussed.

#### **4. Determinants**

Focuses on the calculation and application of determinants, including finding the area of triangles, minors, cofactors, and the adjoint of matrices.

#### **5. Continuity and Differentiability**

Covers the principles of continuity, differentiability, and higher-order derivatives, along with logarithmic and parametric differentiation.

#### **6. Application of Derivatives**

Applications include rate of change, increasing/decreasing functions, and the concepts of maxima and minima, which are crucial for real-world problem-solving in economics and commerce.

#### **Appendices**

Topics include mathematical proofs and the basics of mathematical modeling, emphasizing the importance of these skills in theoretical and applied mathematics.

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## **Textbook 2: Mathematics Part II**

### **7. Integrals**

Introduces integration as the inverse process of differentiation, with methods such as integration by parts and partial fractions, and covers definite integrals and their properties.

### **8. Application of Integrals**

This chapter focuses on finding the area under curves, which has applications in economics, statistics, and other fields.

### **9. Differential Equations**

Provides an introduction to differential equations, their solutions, and methods for solving first-order, first-degree differential equations.

### **10. Vector Algebra**

An introduction to vectors, covering their types, addition, scalar multiplication, and the product of two vectors, essential for geometric interpretations.

### **11. Three-Dimensional Geometry**

Explores concepts like direction cosines, the equation of a line in space, and the shortest distance between lines, crucial for spatial reasoning.

### **12. Linear Programming**

Introduces the formulation and solution of linear programming problems, with applications in optimization, a key concept in commerce and economics.

### **13. Probability**

Covers conditional probability, the multiplication theorem, Bayes' theorem, and independent events, which are fundamental for statistical analysis and decision-making in business.

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The Class 12 Mathematics curriculum provides a comprehensive framework for understanding both theoretical and applied aspects of mathematics. It prepares students for higher education and careers in commerce, economics, business management, and more by teaching them to analyze, solve, and model mathematical problems relevant to real-world scenarios.