

UP Board Class 12 Mathematics Syllabus 2025-26

(Based on NCERT Curriculum)

The Uttar Pradesh Madhyamik Shiksha Parishad (UPMSP) has released the updated Class 12 Mathematics syllabus for the academic year 2025-26. This syllabus is aligned with the NCERT curriculum and is designed to strengthen conceptual understanding while enhancing problem-solving skills. Mathematics at the Class 12 level forms the foundation for higher education in fields such as engineering, commerce, economics, and research.

The syllabus comprises six major units, with a total weightage of 100 marks for the theory paper. Students must secure at least 33% marks to pass the examination. The syllabus emphasizes Calculus, which carries the maximum weightage, along with important applications in Algebra, Geometry, Probability, and Linear Programming.

Exam Pattern

The Class 12 Mathematics examination will follow the structure below:

- **Total Marks:** 100 (Theory only, no practicals)
- **Exam Duration:** 3 Hours
- **Passing Marks:** 33% (33 marks)
- **Question Types:**
 - Very Short Answer (1 mark each)
 - Short Answer (2-4 marks each)
 - Long Answer (6 marks each)
- The paper will include both direct problem-solving and application-based questions.

Syllabus Overview

The UP Board Class 12 Mathematics syllabus is divided into six units as given below.

Unit	Topics / Chapters	Marks
Relations and Functions	• Relations: Types, reflexive, symmetric, transitive, equivalence • Functions: Types, one-one, onto, composition of functions • Inverse Trigonometric Functions: Definition, domain, range, principal values	10
Algebra	• Matrices: Types (zero, diagonal, identity, etc.), operations, properties • Determinants: Properties, minors, co-factors, applications, area of triangles • Inverse of a Matrix: Using adjoint and elementary transformations	13
Calculus	• Continuity and Differentiability: Limits, derivatives, chain rule • Applications of Derivatives: Tangents, normals, rate of change, maxima and minima • Integrals: Indefinite, definite, standard results, methods, properties	44
Vectors and 3-D Geometry	• Vectors: Scalar and vector product, direction cosines, properties • 3-D Geometry: Equations of lines, planes, angle between lines and planes	17
Linear Programming	• Introduction to LPP • Mathematical formulation • Graphical method of solution • Corner-point method	6
Probability	• Conditional probability, multiplication theorem • Bayes' theorem with applications • Random variables and probability distributions • Mean and variance of probability distribution	10
Total		100

Weightage Analysis

- **Calculus (44 marks)** – The most important section; contributes almost half of the paper.
- **Vectors & 3D Geometry (17 marks)** – High-scoring if concepts are clear.
- **Algebra (13 marks)** – Requires strong fundamentals of matrices and determinants.
- **Probability (10 marks)** – Logical application-based; focus on Bayes' theorem and distributions.
- **Relations and Functions (10 marks)** – Inverse trigonometric functions are frequently tested.
- **Linear Programming (6 marks)** – Graphical questions are straightforward and scoring.

Preparation Strategy

1. **Focus on Calculus:** Practice derivatives, integrals, and differential equations daily.
2. **Master Algebra:** Learn properties of determinants and matrices for solving equations.
3. **Visualize Geometry:** Draw figures for vector and 3D geometry problems to understand concepts better.
4. **Practice Previous Papers:** Solving last 10 years' UP Board papers will help identify repeated patterns.
5. **Time Management:** Allocate 3 hours daily for problem-solving and revision before exams.

For official updates, students should visit the UPMSP website at: www.upmsp.edu.in.