CBSE Class 10 Maths Syllabus for 2024-25: Check Chapters & Topics

March 30, 2024

Central Board of Secondary Education (CBSE) has officially released the syllabus/curriculum for the Class 10 students for the academic session 2024-25. The syllabus of Class 10 Mathematics (Standard & Basic) remains the same as the previous year. The detailed syllabus is given below for you. You can also take a printout of the syllabus and use it when needed.

Board	CBSE
Class	10
Session	2024-25
Subject	Mathematics
Content Type	Syllabus/Curriculum
Official Website	https://cbseacademic.nic.in

MATHEMATICS (Code No. 041)

CLASS – X (2024-25)

- Theory – 80 Marks
- Internal Assessment – 20 Marks

COURSE STRUCTURE CLASS –X

Unit Name	Marks
I. Number Systems	06
II. Algebra	20
III. Coordinate Geometry	06
IV. Geometry	15
V. Trigonometry	12
VI. Mensuration	10
VII. Statistics & Probability	11
Total	**80**

UNIT I: NUMBER SYSTEMS

1. REAL NUMBER

Fundamental Theorem of Arithmetic - statements after reviewing work done earlier and after illustrating and motivating through examples, Proofs of the irrationality of $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$.

UNIT II: ALGEBRA

1. POLYNOMIALS

Zeros of a polynomial. Relationship between zeros and coefficients of quadratic polynomials.

2. PAIR OF LINEAR EQUATIONS IN TWO VARIABLES

Pair of linear equations in two variables and graphical method of their solution, consistency/inconsistency.

Algebraic conditions for the number of solutions. Solution of a pair of linear equations in two variables algebraically - by substitution, by elimination. Simple situational problems.

3. QUADRATIC EQUATIONS

The standard form of a quadratic equation $ax^2 + bx + c = 0, (a \neq 0)$. Solutions of quadratic equations (only real roots) by factorization, and by using the quadratic formula. Relationship between discriminant and nature of roots.

Situational problems based on quadratic equations related to day-to-day activities to be incorporated.

4. ARITHMETIC PROGRESSIONS

Motivation for studying Arithmetic Progression Derivation of the nth term and sum of the first n terms of A.P. and their application in solving daily life problems.

UNIT III: COORDINATE GEOMETRY

COORDINATE GEOMETRY

Review: Concepts of coordinate geometry, graphs of linear equations. Distance formula. Section formula (internal division).

UNIT IV: GEOMETRY

1. TRIANGLES

Definitions, examples, and counter examples of similar triangles.

1. (Prove) If a line is drawn parallel to one side of a triangle to intersect the other two sides in distinct points, the other two sides are divided in the same ratio.
2. (Motivate) If a line divides two sides of a triangle in the same ratio, the line is parallel to the third side.
3. (Motivate) If in two triangles, the corresponding angles are equal, their corresponding sides are proportional and the triangles are similar.
4. (Motivate) If the corresponding sides of two triangles are proportional, their corresponding angles are equal and the two triangles are similar.
5. (Motivate) If one angle of a triangle is equal to one angle of another triangle and the sides including these angles are proportional, the two triangles are similar.

2. CIRCLES

Tangent to a circle at the point of contact

1. (Prove) The tangent at any point of a circle is perpendicular to the radius through the point of contact.
2. (Prove) The lengths of tangents drawn from an external point to a circle are equal.

UNIT V: TRIGONOMETRY

1. INTRODUCTION TO TRIGONOMETRY

Trigonometric ratios of an acute angle of a right-angled triangle. Proof of their existence (well defined); motivate the ratios whichever are defined at 0° and 90°. Values of the trigonometric ratios of 30°, 45°, and 60°. Relationships between the ratios.

2. TRIGONOMETRIC IDENTITIES

Proof and applications of the identity $\sin^2 A + \cos^2 A = 1$. Only simple identities are to be given.

3. HEIGHTS AND DISTANCES: Angle of elevation, Angle of Depression.

Simple problems on heights and distances. Problems should not involve more than two right triangles. Angles of elevation/depression should be only 30°, 45°, and 60°.

UNIT VI: MENSURATION

1. AREAS RELATED TO CIRCLES

Area of sectors and segments of a circle. Problems based on areas and perimeter /circumference of the above-said plane figures. (In calculating the area of a segment of a circle, problems should be restricted to the central angles of 60°, 90°, and 120° only.

2. SURFACE AREAS AND VOLUMES

Surface areas and volumes of combinations of any two of the following: cubes, cuboids, spheres, hemispheres, and right circular cylinders/cones.

UNIT VII: STATISTICS AND PROBABILITY

1. STATISTICS

Mean, median, and mode of grouped data (bimodal situation to be avoided).

2. PROBABILITY

The classical definition of probability. Simple problems in finding the probability of an event.

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Also See:
CBSE Class 10 English Language & Literature Syllabus 2024-25
CBSE Class 10 Social Science Syllabus 2024-25
CBSE Class 10 Science Syllabus 2024-25