



BLOOM PUBLIC SCHOOL
C-8 Vasant Kunj, New Delhi
Syllabus for the Session 2023-24

Class: X

Subject: Mathematics

SYLLABUS		
MONTH	CHAPTER (NCERT Text book)	CONTENT
APRIL	Ch 1: Real Numbers	Fundamental Theorem of Arithmetic - statements after reviewing work done earlier and after illustrating and motivating through examples, Proofs of irrationality of $\sqrt{2}$, $\sqrt{3}$ and $\sqrt{5}$.
	Ch 2: Polynomials	Zeros of a polynomial. Relationship between zeros and coefficients of quadratic polynomials.
	Ch 3: Pair of Linear Equations with Two Variables	Pair of linear equations in two variables and graphical method of their solution, consistency/inconsistency. Algebraic conditions for number of solutions.
MAY	Ch 3: Pair of Linear Equations with Two Variables (contd)	Algebraic conditions for number of solutions. Solution of a pair of linear equations in two variables algebraically - by substitution, by elimination. Simple situational problems.
	Ch 4: Quadratic Equations	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 quadratic formula. Relationship between discriminant and nature of roots. Situational problems based on quadratic equations related to day to day activities to be incorporated.
	Ch 5: Arithmetic Progression	Motivation for studying Arithmetic Progression Derivation of the n th term and sum of the first n terms of A.P. and their application in solving daily life problems.
July	Ch 6: Triangles	Definitions, examples, 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.

	<p>Ch 7: Coordinate Geometry</p> <p>Ch 8: Introduction to Trigonometry</p>	<p>2. (Motivate) If a line divides two sides of a triangle in the same ratio, the line is parallel to the third side.</p> <p>3. (Motivate) If in two triangles, the corresponding angles are equal, their corresponding sides are proportional and the triangles are similar.</p> <p>4. (Motivate) If the corresponding sides of two triangles are proportional, their corresponding angles are equal and the two triangles are similar.</p> <p>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.</p> <p>Concepts of coordinate geometry, graphs of linear equations. Distance formula. Section formula (internal division).</p> <p>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.</p>
August	<p>Ch 8: Introduction to Trigonometry (contd)</p> <p>Ch 9: Some Applications of Trigonometry</p> <p>Ch 10: Circles</p>	<p>Proof and applications of the identity $\sin^2 A + \cos^2 A = 1$. Only simple identities to be given.</p> <p>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°.</p> <p>Tangent to a circle at, point of contact</p> <p>1. (Prove) The tangent at any point of a circle is perpendicular to the radius through the point of contact.</p> <p>2. (Prove) The lengths of tangents drawn from an external point to a circle are equal.</p> <p>3. (Motivate) Alternative Segment theorem: If a chord is drawn through the point of contact of a tangent to a circle, then the angles made by the chord with the tangent are respectively equal to the angles subtended by the chord in the alternate segments.</p>

	Ch 12: Areas related to Circles	Motivate the area of a circle; area of sectors and segments of a circle. Problems based on areas and perimeter / circumference of the above said plane figures. (In calculating area of segment of a circle, problems should be restricted to central angle of 60° , 90° and 120° only. Plane figures involving triangles, simple quadrilaterals and circle should be taken.)
September	Ch 12: Areas related to Circles (contd) Revision for Term 1 Exam	Problems based on areas and perimeter / circumference of the above said plane figures. (In calculating area of segment of a circle, problems should be restricted to central angle of 60° , 90° and 120° only. Plane figures involving triangles, simple quadrilaterals and circle should be taken.) Ch 1: Real Numbers Ch 2: Polynomials Ch 3: Pair of Linear Equations in Two Variables Ch 4: Quadratic Equations Ch 5: Arithmetic Progression Ch 6: Triangles Ch 7: Coordinate Geometry Ch 8: Introduction to Trigonometry
October	Ch 13: Surface Area and Volume Ch 14: Statistics	Surface areas and volumes of combinations of any two of the following: cubes, cuboids, spheres, hemispheres and right circular cylinders/cones. Mean, median and mode of grouped data (bimodal situation to be avoided).
November	Ch 15: Probability Pre-Board Exam Revision	Classical definition of probability. Simple problems on finding the probability of an event.
December	Pre-Board Exam Revision	
January	Revision	
February	Revision	
March	Board Exams	

ASSESSMENT SYLLABUS		
PERIODIC ASSESSMENT -1	Ch 1: Real Numbers Ch 2: Polynomials Ch 3: Pair of Linear Equations in Two Variables	
PERIODIC ASSESSMENT -2	Ch 4: Quadratic Equations Ch 5: Arithmetic Progression Ch 7: Coordinate Geometry	
TERM -1 EXAM	Ch 1: Real Numbers Ch 2: Polynomials Ch 3: Pair of Linear Equations in Two Variables Ch 4: Quadratic Equations Ch 5: Arithmetic Progression Ch 6: Triangles Ch 7: Coordinate Geometry Ch 8: Introduction to Trigonometry	
PRE-BOARD EXAM	Ch 1: Real Numbers Ch 2: Polynomials Ch 3: Pair of Linear Equations in Two Variables Ch 4: Quadratic Equations Ch 5: Arithmetic Progression Ch 6: Triangles Ch 7: Coordinate Geometry Ch 8: Introduction to Trigonometry Ch 9: Some Applications of Trigonometry Ch 10: Circles Ch 11: Areas related to Circles Ch 12: Surface Area and Volume Ch 13: Statistics Ch 14: Probability	
BOARD EXAM	Ch 1: Real Numbers Ch 2: Polynomials Ch 3: Pair of Linear Equations in Two Variables Ch 4: Quadratic Equations Ch 5: Arithmetic Progression Ch 6: Triangles Ch 7: Coordinate Geometry Ch 8: Introduction to Trigonometry Ch 9: Some Applications of Trigonometry Ch 10: Circles Ch 11: Areas related to Circles Ch 12: Surface Area and Volume	

	Ch 13: Statistics Ch 14: Probability
--	---