Subject : Mathematics   Class : 10th

MONTH &CHAPTER	CONTENT	ACTIVITIES/ Co-curricular Activities
April 1.Real Numbers	Fundamental Theorem of Arithmetic - statements after reviewing work done earlier and after illustrating and motivating through examples.	Verification of HCF & LCM of three numbers
2.Polynomials	Zeroes of a polynomial. Relationship between zeroes and coefficients of quadratic polynomials only.	Graphs of Polynomial
3.Pair of Linear equation in two variables	Pair of linear equations in two variables and graphical method of their solution, consistency/inconsistency. Algebraic conditions for number of solutions. Solution of a pair of linear equations in two variables algebraically - by substitution and by elimination. Simple situational problems. Simple problems on equations reducible to linear equations.	Graph of pair of Linear equation in two variables (Unique solution/intersecting lines, no solution/parallel lines and many solution/ coincident lines.
May 3.Pair of Linear equation in two variables (continue)		

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 (problems on equations reducible to quadratic equations are excluded	Derivation of Quadratic Formula
5.Arithmatic Progression	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. (Applications based on sum to n terms of an A.P. are excluded)	Derivation of nth term and sum of first n terms.
July		
7. Co-ordinate Geometry	Review: Concepts of coordinate geometry, graphs of linear equations. Distance formula. Section formula (internal division)	Derivation of Distance formula and section formula.
6.Similar 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. 2. (Motivate) If a line divides two sides of a triangle in the same ratio, the line is parallel to the third side.	Definitions of SSS, SAS and AAA similarity (Geometrically)

	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.	
	6. (Motivate) If a perpendicular is drawn from the vertex of the right angle of a right triangle to the hypotenuse, the triangles on each side of the perpendicular are similar to the whole triangle and to each other.	
	7. (Motivate) The ratio of the areas of two similar triangles is equal to the ratio of the squares of their corresponding sides.	
	8. (Prove) In a right triangle, the square on the hypotenuse is equal to the sum of the squares on the other two sides.	
	9. (Motivate) In a triangle, if the square on one side is equal to sum of the squares on the other two sides, the angle opposite to the first side is a right angle.	
8. Trigonometry	Trigonometric ratios of an acute angle of a right-angled triangle. Proof of their existence (well defined). Values of the	Trigonometric Table.

	trigonometric ratios of 30^0 , 45^0 and 60^0 . Relationships between the ratios. TRIGONOMETRIC IDENTITIES : Proof and applications of the identity $\sin^2 A + \cos^2 A = 1$. Only simple identities to be given.	
August 9. Some Application of Trigonometry	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°, 60°.	Definition of Angle of elevation, angle of depression and line of sight. (Geometrically)
10.Circles	Tangent to a circle at, 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.	
September	Revision & Half Yearly Exams	
October 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° and 90° only. Plane figures involving triangles, simple quadrilaterals and circle should be taken.)	
13.Surface area and Volume	Surface areas and volumes of combinations of any two of the following: cubes, cuboids, spheres, hemispheres and right circular cylinders/cones. 2. Problems involving converting one type of metallic solid into another and other mixed problems. (Problems with combination of not more than two different solids be taken).	Models of cubes, cuboids, cylinder, cone, spheres and hemispheres
November		
14. Statistics	Mean, median and mode of grouped data (bimodal situation to be avoided). Mean by Direct Method and Assumed Mean Method only.	Mean, median and mode of collected data.
15.Probability	Classical definition of probability. Simple problems on finding the probability of an event.	
December	**Revision :**	
January	Revision & Pre- Board Exams	
February	**Revision**	
March	**Final Exams.**	

U.T. 1 Syllabus	Chapters : 1, 2, 3, 4.
U.T. -2 Syllabus	Chapters : 6,7,8,9
Half Yearly Syllabus	Chapters : 1,2,3,4,5,6,7,8
Pre –Board syllabus	Full syllabus