

**The Orchid School  
Baner  
Syllabus Overview 2015- 2016  
Std X  
Subject : Mathematics**

Month	Lesson / Content / Name of the Book	Expected Learning Objective	Activities/FAs Planned
MARCH/APRIL	Introduction to Trigonometry : Trigonometric Ratios	All students will identify the basic ratios They will be able to define basic trigonometric ratios	Activity to derive the ratios Exercise questions
	Introduction to Trigonometry : Trigonometric Ratios	They will be able to find value of Trigonometric ratios of angles when sides are given.	Exercise questions
	Trigonometric ratios of Specific angles ( 0,30,45,60,90 ) and complementary angles	The students will state the specific values of the standard angles , use the table and solve questions based on the concept.  Students will describe relation between trigonometric ratios of complementary angles and use them to solve exercise questions	FA 1 Test 2

	<b>Trigonometric Identities</b>	<b>All Students will develop the three basic identities . Most of them will use them to solve equations using the identities</b>	<b>Derivation of Identities Exercise Questions</b>
	<b>Introduction to Statistics - Mean</b>	<b>All students will be able to calculate the Mean using formula</b>	<b>Notes on simple definitions of terms used in Statistics Exercise Questions</b>
<b>JUNE</b>	<b>Statistics Mode and Median and Ojives</b>	<b>All students will be able state and use the formula to calculate the Mode and Median All students will be able to make Ogives for the grouped data</b>	<b>Solving of Exercise Questions Drawing Ojives</b>
	<b>Real Numbers - Euclid's Division lemma and Fundamental Theorem of Arithmetic</b>	<b>All students will state and use Euclid's Division Lemma and Fundamental theorem of Arithmetic They will be able to find HCF and LCM using prime factorization</b>	<b>Research on Euclid and his work in the field of Mathematics</b>
	<b>Real Numbers -Revisiting Rational and Irrational Numbers</b>	<b>They will be able to use the condition on rational numbers to have terminating decimal expansion.</b>	<b>Exercise questions</b>
	<b>Revision / FA 1 test3</b>	<b>All students will solve the Revision worksheet and FA 1 starts</b>	<b>FA 1 Test 3</b>

FA 1			
JULY	<p align="center"><b>Polynomials: Zeroes of a polynomial</b></p>	<p>All students will be able to explain the geometrical meaning of Zeroes of Polynomials. All students will state and use relation between Zeroes and Coefficients of a polynomial.</p>	<p>Exercise Questions FA 2 Test 1 ( integrated)</p>
	<p align="center"><b>Polynomials: Division Algorithm of Polynomials</b></p>	<p>Most of the students will be able to explain the algorithm and solve questions based on it</p>	<p>Group Activity on finding the missing term Exercise questions</p>
	<p align="center"><b>Pair of linear Equations: Equations in two variables, Algebraic Methods and graphical methods.</b></p>	<p>Most students will be able to convert a word problem into a pair of linear equations in two variables. They will be able to plot two equations on graph and find solution graphically. They will state the three algebraic methods and use them to find solutions.</p>	<p>FA 2 - Test 2-Lab Activity on Graphical solution of linear equations in two variables and identify its type</p>
	<p align="center"><b>Triangles - Similar figures and similarity of triangles</b></p>	<p>The students will be able to identify similar figures and apply the conditions for similarity</p>	<p>Exercise Questions</p>
	<p align="center"><b>Theorems and proofs related to Similar triangles</b></p>	<p>The students will be able to derive the proofs like similarity of triangles test and its converse and apply them to solve questions</p>	<p>Exercise Questions</p>

AUG	Theorems and proofs related to Similar triangles continued	The students will be able to derive the proofs like BPT, and its converse and apply them to solve questions	Verification of Basic Proportionality theorem.
	Areas of similar triangle and Pythagoras Theorem	The students will find the areas of similar triangles. They will derive and apply Pythagoras Theorem and its converse.	Activity to verify the Pythagoras Theorem.
	Revision	Students will be able to apply the concepts learnt and review their learning	
	Revision Test for term 1	Students will be tested on the concepts taught in term 1	
FA 2			

SEPT	Some applications of Trigonometry: Heights and Distances.	The students will be able to read and analyze word problem and draw the corresponding figure. They will apply the knowledge of trigonometry in solving real life problems.	Exercise Questions and worksheet
	Revision for Term 1 + Circles: Tangent to a circle. Number of tangents from a point on a circle. Summary.	The students will be able to apply the knowledge of theorem and this will result in solving questions.	Lab Activity on Tangents of the circle
	SA 1		
	SA1		
	<b>CONSTRUCTIONS:</b> Division of a line segment. Construction of a tangent to a circle.	To construct the pair of tangents from an external point to a circle. To learn to divide a line segment internally in a given ratio. To construct a triangle similar to given triangle as per given scale.	Exercise Questions and worksheet

SA 1			
OCT	Coordinate Geometry: Introduction. Distance Formula	To reinforce the understanding of plotting of points on coordinate plane. To apply distance formula to find the distance between two points.	Lab Activity Plotting pictures. To find the coordinates of the given picture.
	Section Formula.	To apply Distance Formula & Section Formula to find the distance between two points.	Exercise Questions and worksheet
	Area of a triangle.	To find area of triangle.	Exercise Questions and worksheet
	Probability	To identify the outcome of events and experiments	Project on Probability Exercise Questions
NOV	Some applications of Trigonometry: Heights and Distances	To read and analyze word problem and to draw the corresponding figure.	Real Application Questions to connect the mathematical concept with real life situations
		Diwali Break (5th-15th Nov)	

	<p>Arithmetic Progressions nth Term and Sum of n terms</p>	<p>To identify the situations in daily life where the A.P is observed.</p>	<p>Exercise Questions and worksheet</p>
	<p>Quadratic equations. Q Eqns solution by factorisation. Nature of Roots</p>	<p>To convert word problems into quadratic equation and solve them using Quadratic formulas</p>	<p>Exercise Questions and worksheet</p>
FA 3			
DEC	<p>Areas related to circles.</p>		
	<p>Surface areas and Volume</p>		
	<p>Revision</p>		
	<p>Revision</p>		

JAN	Revision (SA2)		
	Revision (SA2)		
	Revision (SA2)		
	Revision (SA2)		
FA 4			
FEB	Revision (SA2)		
	Revision (SA2)		
	Revision (SA2)		
SA 2			