

**YEAR PLAN 2018– 2019**  
**GRADE XI MATHEMATICS (COMMERCE)**

**The academic year is divided into three sessions.**

**Session One:** June to August 2018

**Session Two:** September 2018 to December 2018.

**Session Three:** January 2019 to March 2019

**Monthly Tests:** June, July, October, January

**First Term Exam** – August 2018

**Second Term Exam**-December 2018

**Third Term Exam** – March 2019

**AIM:** Learn and apply the subject in the related disciplines and in day to day life.

**GENERAL OBJECTIVES:** To

- Develop problem solving skills and logical reasoning power.
- Learn mathematical language, symbols, formulae, figures etc.
- Prepare for further learning in Mathematics and other related disciplines.
- Prepare a sound foundation needed for various vocations.
- Develop a positive attitude to the use of internet as a learning tool.

**ENDURING UNDERSTANDING:** To understand and appreciate the importance of the subject in daily life.

Duration	Topics/Units	Specific Learning Objectives	Activities	Resources
June	<p><b>#Sets(Section A)</b> Definition, representation of sets, types of sets. Venn diagram. Properties and operation of sets, Application of sets.</p> <p><b>#Relations and functions(Section A)</b> Ordered pair, Cartesian product. Definition of relations, representation of relations.</p> <p><b>#Trigonometry(Section A)</b> Revision of basic concepts. Angles and arc length, Trigonometric identities, properties of trigonometric ratios.</p> <p><b>Monthly Test</b></p>	<p>Associate set theory with our daily life Finite set and infinite set. Set of real numbers. Union and intersection of sets.</p> <p>Correlates the idea of sets &amp; relations</p> <p>Compare degree and radian measures of angles Learn and apply formulae.</p>	<ul style="list-style-type: none"> <li>• Notes.</li> <li>• Problem solving.</li> <li>• Text book exercises</li> <li>• Class Tests</li> <li>• Assignment on Venn diagrams &amp; Trigonometry</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher's notes</li> <li>• Websites: icseguess.com , guideforschool.com &amp; alphamath.in</li> <li>• <b>Questions from the book by M.L. Aggarwal, R.S. Aggarwal etc</b></li> </ul>
July	<p><b>#Relations and functions(Section A)</b> Definition of functions, types of functions, domain &amp; range of functions.</p> <p><b>#Trigonometry(Section A)</b> Trigonometric identities, trigonometric functions, compound and multiple angle formulae. Trigonometric equations, properties of triangle.</p> <p><b>#Statistics(Section A)</b> Measures of dispersion-Range, mean and standard deviation, S.D by different methods</p>	<p>Compares the concept of relations &amp; functions.</p> <p>Understand the importance of trigonometry in Other fields.</p> <p>Apply compound and multiple angle formulas.</p> <p>Learns more about grouped and ungrouped data</p>	<ul style="list-style-type: none"> <li>• Notes.</li> <li>• Problem solving.</li> <li>• Text book exercises</li> <li>• Worksheets on Relations &amp; Fns., Statistics. Class tests</li> </ul>	

	<b>Monthly Test</b>			<ul style="list-style-type: none"> <li>• <b>ISC Mathematics text books by different authors(M.L.Aggarwal, R.S.Aggarwal)</b></li> <li>• Teacher's notes</li> <li>• Additional Reference Textbooks Websites : icseguess.com , guideforschool.com &amp; alphamath.in</li> </ul>
<b>August</b>	<b>FIRST TERM EXAM &amp; Onam Holidays</b>			
<b>September</b>	<p><b>#Principle of Mathematical induction(Section A)</b> Using PMI to prove different summations, divisibility and inequalities of algebraic expressions.</p> <p><b>#Complex numbers(Section A)</b> Definition,operationof ComplexNumbers. Amplitude and argument, conjugate of complexnumbers.</p> <p><b>#Inequalities(Section A)</b> Linear inequalities and its solution graphically<b>Monthly Test</b></p>	<p>Deduction and induction methods for proving Mathematical results. Use of induction in problem solving.</p> <p>Understand the concept of Complex Numbers. Operations on complex numbers.Simplification of expressions in (a+ib) form. Locus questions on complex numbers.Square root of a complex number.Cube root of unity.</p>	<ul style="list-style-type: none"> <li>• Represent complex number on Argand plane.</li> <li>• Problem solving.</li> <li>• Worksheets on Mathematical induction &amp; Complex Numbers</li> </ul>	
<b>October</b>	<p><b>#Sequence and Series(Section A)</b> A.P. , G.P.,A.G.P and special sequences</p> <p><b>#Coordinate geometry (Section A)</b> Slope of a line,equation of straight Line, Area of triangle and quadrilateral. Different types of equations of straight lines, locus, and equation of locus. <b>Monthly Test</b></p>	<p>Understands the concept of different types of sequences</p> <p>Learns about the concepts related to straight lines and correlates diff eqns in lines.</p>	<ul style="list-style-type: none"> <li>• Notes.</li> <li>• Problem solving.</li> <li>• Text book exercises</li> <li>• Worksheets on AP &amp; GP, Co-ord. Geometry</li> </ul>	
<b>November</b>	<p><b>#Permutations&amp; Combinations(Section A)</b> Factorial notation, restricted permutations, circular permutations,combinations and mixed problems of permutation and combination.</p> <p><b>#Circle(Section B)</b> Different forms of equations of circles.Tangents of circles,Condition that <math>y = m x + c</math> is a tangent to the conics.Equation of tangents and related problems. <b>Monthly Test</b></p>	<p>Develops knowledge about calculus in the form of limits &amp; differentiation</p> <p>Learns about diff eqns of circles and the conditions for tangency</p>	<ul style="list-style-type: none"> <li>• Notes</li> <li>• Problem solving</li> <li>• Text book exercises</li> <li>• Worksheets on Perm. &amp;Comb.</li> <li>• Class Tests</li> </ul>	<ul style="list-style-type: none"> <li>• <b>ISC Mathematics text books by different authors(M.L.Aggarwal, R.S.Aggarwal)</b></li> <li>• Teacher's notes</li> <li>• Past examination papers. Additional Reference Textbooks Websites : icseguess.com , guideforschool.com&amp; alphamath.com</li> </ul>
<b>December</b>	<b>Second Term Exam &amp; Christmas Holidays</b>			

<b>January</b>	<p><b>#Limits and derivatives(Section A).</b> Limits of algebraic, trigonometric exponential and log functions. Derivatives of simple functions. <math>u+v</math>, <math>uv</math>, <math>u/v</math> formula of differentiation</p> <p><b>#Binomial Theorem (Section A)</b> Pascals triangle proof of B.T, problems on B.T</p> <p><b>#Correlation Analysis(Section C)</b> Correlation coefficient(Different methods)</p> <p><b>Monthly test</b></p>	<p>Understanding factorial notation. Develop the skill to analyse the given situation by accurate logical reasoning and work out problems. Problems involving selection and arrangement together. Practical problems.</p> <p>Correlate the Pascal's triangle with coefficients of binomial expansion.</p> <p>Learns different methods of working out correlation between 2 variables</p>	<ul style="list-style-type: none"> <li>• Notes</li> <li>• Problem solving</li> <li>• Text book exercises</li> <li>• Worksheets on Derivatives, Binomial Theorem &amp; Correlation</li> <li>• Class Tests</li> </ul>	
<b>February</b>	<p><b>#Probability(Section A)</b> Definition of probability, terms related to probability, Laws of probability, Addition theorem on probability.</p> <p><b>#Index Numbers and Moving averages(Section C)</b> Calculating index numbers using different methods; Calculating moving averages Revision &amp; tests</p>	<p>Random experiments and their outcomes. Different events. Addition and multiplication theorem of probability.</p> <p>Correlates the idea of index numbers in Economics to that in maths</p>	<ul style="list-style-type: none"> <li>• Textbook exercises</li> <li>• Worksheets on Probability &amp; Moving averages</li> </ul>	
<b>March</b>	<b>Third term exam</b>			
<p><b>Projects/ Field trips:</b> As per the guidelines given by ISC  <b>Facilitator name:</b> Mrs. Regina Vivek  <b>Checked</b></p>				