

YEAR PLAN 2018– 2019
GRADE XI MATHEMATICS (SCIENCE)

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>#Sets(Section A) Definition, representation of sets, types of sets. Venn diagram. properties and operation of sets, Application of sets.</p> <p>#Relations and functions(Section A) Ordered pair, Cartesian product. definition of relations, representation of relations.</p> <p>#Trigonometry(Section A) Revision of basic concepts. Angles and arc length, Trigonometric identities, properties of trigonometric ratios.</p> <p>Monthly Test</p> <p>Assignment on Quadratic Equations</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 & relations</p> <p>Compare degree and radian measures of angles Learn and apply formulae.</p>	<ul style="list-style-type: none"> • Notes. • Problem solving. • Text book exercises • Class Tests 	<ul style="list-style-type: none"> • Teacher's notes • Websites: icseguess.com , guideforschool.com. • Questions from the book by M.L. Aggarwal, R.S. Aggarwal etc
July	<p>#Relations and functions(Section A) Definition of functions, types of functions, domain & range of functions</p> <p>#Trigonometry(Section A) Trigonometric identities, trigonometric functions, compound and multiple angle formulas. Trigonometric equations, properties of triangle.</p> <p>#Statistics(Section A) Measures of dispersion-Range, mean and standard deviation, S.D by different methods</p> <p>Monthly Test</p>	<p>Compares the concept of relations & 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"> • Notes. • Problem solving. • Text book exercises • Class tests 	<ul style="list-style-type: none"> • Teacher's notes • Questions from the book by M.L. Aggarwal, R.S. Aggarwal etc

August	FIRST TERM EXAM & Onam Holidays			
September	<p>#Principle of Mathematical induction(Section A) Using PMI to prove different summations, divisibility and inequalities of algebraic expressions.</p> <p>#Complex numbers(Section A) Definition, operation of complex numbers. Amplitude and argument, conjugate of complex numbers. #Inequalities(Section A) Linear inequalities and its solution graphically Monthly Test</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"> Represent complex number on Argand plane. Problem solving. 	<ul style="list-style-type: none"> ISC Mathematics text books by different authors(M.L.Aggarwal,R.S.Aggarwal) Teacher's notes Additional Reference Textbooks Websites : icseguess.com , guideforschool.com
October	<p>#Sequence and Series(Section A) A.P. , G.P.,A.G.P and special sequences</p> <p>#Coordinate geometry (Section A) Slope of a line, equation of straight Line, Area of triangle and quadrilateral. Different types of equations of straight lines, locus, equation of locus. Monthly Test</p> <p>Assignment on Mathematical Reasoning</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"> Notes. Problem solving. Text book exercises 	
November	<p>#Permutations and Combinations(Section A) Factorial notation, restricted permutations, circular permutations, combinations and mixed problems of permutation and combination.</p> <p>#Circle(Section B) Different forms of equations of circles. Tangents of circles, Condition that $y = m x + c$ is a tangent to the conics. equation of tangents and related problems.</p>	<p>Develops knowledge about calculus in the form of limits & differentiation</p> <p>Learns about diff eqns of circles and the conditions for tangency</p>	<ul style="list-style-type: none"> Notes Problem solving Text book exercises Worksheets Class Tests 	

December	Second Term Exam Xmas Holidays			
January	<p>#Limits and derivatives (Section A). Limits of algebraic, trigonometric exponential and log functions. Derivatives of simple functions. $u+v$, uv, u/v formulas of differentiation</p> <p>#Binomial Theorem (Section A) Pascals triangle proof of B.T, problems on B.T</p> <p>#Conic sections (Section B) Parabola</p> <p>Monthly test</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>	<ul style="list-style-type: none"> Notes Problem solving Text book exercises Worksheets Class Tests 	<ul style="list-style-type: none"> ISC Mathematics text books by different authors (M.L. Aggarwal, R.S. Aggarwal) Teacher's notes Past examination papers. Additional Reference Textbooks Websites : icseguess.com , guideforschool.com
February	<p>#Conic Sections (Section B) Ellipse, focal property of ellipse. Hyperbola, Transverse and conjugate axis, Focal property of hyperbola.</p> <p>#Probability (Section A) Definition of probability, terms related to probability, Laws of probability, Addition theorem on probability.</p> <p>#Three dimensional coordinate geometry (Section B)-Distance formulae and Section formulae</p> <p>Revision & tests</p>	<p>Practical problems on ellipse. Equations of ellipse. Problems related to tangents to different conics General second degree equation as conics...</p> <p>Random experiments and their outcomes. Different events. Addition and multiplication theorem of probability.</p> <p>Distance and section formulas in 3-dimension</p>	<ul style="list-style-type: none"> Problems from text 	
March	Third term exam			
<p>Projects/ Field trips: As per the guidelines given by ISC Facilitator name: Mrs. Lekshmy Suresh Checked</p>				