

YEAR PLAN 2018 – 2019
Grade XII (Science) Mathematics

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

Monthly Tests: June, July, October

Summative Assessment I – August 2018

Model Exam-I-December 2018

Model Exam -II – January 2019

AIM: To Learn and apply the subject in the related disciplines as well as in daily life situations.

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

GENERAL OBJECTIVES To

- develop problem solving skills and logical reasoning power.
- learn mathematical language, symbols, formulae, figures, diagrams, definitions and formulae.
- prepare for further learning in Mathematics and other related disciplines.
- prepare a sound foundation needed for various vocations.
- develop an insight into the relationship of different topics and branches of the subject.
- develop a positive attitude to the use of internet as a learning tool.

Duration	Topics/Units	Specific Learning Objectives	Activities	Resources
First Term (June – July)				
JUNE	<p>#Matrices & Determinants 1)Matrices Definition,types of matrices,properties of matrices,finding inverse of matrices using elementary transformations.</p> <p>2) Determinants Definition,properties of determinants,solution of eqns using inverse of a matrix</p> <p>#Vectors(Section B) 1)Scalar(dot)product 2) Vector(cross)product 3)Scalar triple product</p> <p>#Relations & Functions 1)Relations-Definition;Types of relations;checking for equivalence relation Monthly test</p>	<p>Usage of matrix arithmetic. Describe what the matrix inverse is, why is it useful & when it exists</p> <p>Correlate matrices & determinants. Usage of matrices to solve eqns</p> <p>Distinguish between scalar and vector products .Applied problems on vector product</p> <p>Recollecting the idea of relations.</p>	<p>Computing with matrices Solving linear eqns using matrices.</p> <p>Solving linear eqns using matrices.</p> <p>Defining Scalar and vector products. Computing with different operations of vector methods</p> <p>Check whether a relation is equivalence or not</p>	<p>ISC Mathematics: (M.L.Aggarwal)</p> <p>Extra qns from 1)ISC Mathematics: Class XII (O.P.Malhotra) 2)Class 12 Mathematics (R.S.Aggarwal)</p>

JULY	<p>#Relations & Functions 2)Functions-Definition;Types of functions;Inverse of a function;checking whether a function is invertible or not 3)Binary operations Definition & properties of binary operations</p> <p>4)Inverse Trigonometric Functions – Definition and properties Monthly test</p>	<p>Associating relations & functions</p> <p>Usage of functions in doing diff operations which are same as in real numbers</p> <p>Correlates the idea of trigonometric fns and inverse of a function</p>	<p>Finding the inverse of a function</p> <p>Computing operations in fns.</p> <p>Learns to apply inverse of a function in trigonometry</p>	<p>ISC Mathematics: (M.L.Aggarwal)</p> <p>Extra qns from 1)ISC Mathematics: Class XII (O.P.Malhotra) 2)Class 12 Mathematics (R.S.Aggarwal)</p>
AUGUST	Summative Assessment I & Onam Holidays			
SECOND TERM (September – November)				
SEPTEMBER	<p>#Continuity & Differentiability 1)Continuity Defining continuity and their properties 2)Differentiability Types of derivatives</p> <p>3)Indeterminate forms of Limits</p> <p># Application of Derivatives 1)LMV theorem and Rolles theorem 2)Derivative as rate of measure 3)Tangents and Normals 4)Increasing and Decreasing functions 5)Errors & Approximations 6)Maxima & Minima</p> <p>#Three Dimensional Geometry(Section B) 1)Straight Lines - Equation of a line passing through a given point and parallel to a given vector;Equation of a line passing through two points;Shortest distance between two lines</p> <p>Monthly test</p>	<p>Correlating limits & continuity</p> <p>Checking the derivability of a function</p> <p>Correlating limits and derivatives</p> <p>Correlate integration & differentiation. Identify and apply various methods of integration.</p> <p>Understands the concept of vector & Cartesian eqns.</p>	<p>Ensuring previous knowledge of limits in proving continuity of a function and henceforth in proving differentiability.</p> <p>Analysing the geometrical interpretations of various methods of derivatives.</p>	<p>ISC Mathematics: (M.L.Aggarwal)</p> <p>Extra qns from 1)ISC Mathematics: Class XII (O.P.Malhotra) 2)Class 12 Mathematics (R.S.Aggarwal)</p>

<p>OCTOBER</p> <p># Integration 1) Indefinite integrals- Integration using standard results;Integration by substitution;Integration by parts;Integration using partial fractions 2)Definite Integrals- Evaluating definite integrals;Properties of definite integrals;Limit of sum . #Probability Conditional probability:Independent events;Bayestheorem;Probabilitydistribution;Binomial distribution Monthly test #Three Dimensional Geometry 2)Planes- Different equations #Application of Definite integrals(Section B)-Area under a curve;area between 2 curves #Differential Equations Defintion;how to form diff eqns;solution of different types of diff eqns.</p> <p>November</p> <p>Revision</p>	<p>Correlate integration & differentiation. Identify and apply various methods of integration.</p> <p>Apply the properties of definite integrals.</p> <p>Recall the basic ideas on probability Analyse the given problems and apply Baye’s theorem. Distinguish between the probability distribution and binomialdistribution.</p> <p>Identify different forms of equation of Plane</p> <p>Analysing the given eqns,sketching diagrams &finging area bounded by curves</p> <p>Apply integration to solve differential equations.lane</p>	<p>Learning the standard integrals. Identifying various methods to solve integrals.</p> <p>Learn to distinguish between indefinite and definite integrals</p> <p>Discussion on Baye’s theorem. More problem solving</p>	<p>ISC Mathematics: (M.L.Aggarwal)</p> <p>Extra qns from 1)ISC Mathematics: Class XII (O.P.Malhotra) 2)Class 12 Mathematics (R.S.Aggarwal)</p> <p>ISC Mathematics: (M.L.Aggarwal)</p> <p>Extra qns from 1)ISC Mathematics: Class XII (O.P.Malhotra) 2)Class 12 Mathematics (R.S.Aggarwal)</p>
<p>DECEMBER</p>	<p>Revision Model Exam I X’masHodliday</p>		<p>Frank ISC Model papers</p>
<p>JANUARY</p>	<p>Revision Model Exam II</p>	<p>Analyse the learnt concepts. Recall the required formulae and results.</p>	<p>Revision, doubt clearing sessions, tests. Problem solving.</p>
<p>FEBRUARY</p>	<p>Remedial work Individual support</p>		<p>Doing past papers</p>
<p>MARCH</p>	<p>Board Examination</p>		
<p>Facilitators’ name: Mrs. Lekshmy Suresh Text book:ISC Mathematics: (M.L.Aggarwal) Approved by the Principal</p>			