

YEAR PLAN 2018 - 2019
Grade IX MATHEMATICS

The academic year is divided into **two** sessions

Session One: June 2018 to October 2018

Session Two: November 2019 to March 2019

Continuous assessments: July, August, September, December, January, February

Summative Assessment I: October 2018

Summative Assessment II: March 2019

Main Learning Objectives: This year plan is expected to help students,

1. to become successful learners who enjoy learning;
2. to understand texts of different subjects so as to communicate knowledge and ideas in ways specific to the subject;
3. to articulate thoughts and ideas effectively using oral, written and nonverbal communication skills in a variety of forms and contexts;
4. to use technology to access and provide information and to communicate with others;
5. to understand cross-curricular linkages- connect learning across subject areas;
6. to become confident individuals who are able to live safe, healthy and fulfilling lives;
7. to become responsible citizens who make a positive contribution to society;
8. to understand and apply core concepts and knowledge from various subjects to real life experiences;
9. to respect diversity and plurality
10. to exhibit sensitivity towards environmental issues; learn to manage and utilize resources judiciously.

Session One – JUNE 2018 TO OCTOBER 2018

Duration	Topic	Specific objectives	Thinking skills	Learning Process/Activities
June	Grade IX <ul style="list-style-type: none"> • 1 Rational & Irrational Numbers • 2 Compound interest (without formula) • 3 Compound interest (using formula) 	<ul style="list-style-type: none"> • Irrational numbers as non repeating, non terminating decimals. • Interpret the data. Graphical representation. • Recall simple interest • Understand the concept of compound interest and difference between simple interest and compound interest. 	<ul style="list-style-type: none"> • Planning what to do • Sequencing • Comparing and contrasting • Processing information • Drawing inferences • Analysing relationships 	Revising irrational numbers, learning the concept of rationalization. Plotting irrational numbers on a number line. Giving various situations to understand the Concept of compound interest(with and without using formula) .Finding principal, time and rate using formulas.
July	<ul style="list-style-type: none"> • 6 Simultaneous Equations • 8 Logarithms • 9 Triangles • 10 Isosceles Triangles • 11 Inequalities 	<ul style="list-style-type: none"> • Attain knowledge in solving simultaneous equations algebraically using different methods. • Understand the laws of Logarithms and its use. • Recall the properties of Congruency • Properties of isosceles triangle. • Properties of inequalities. 	<ul style="list-style-type: none"> • Giving reasons • Looking for alternate solutions • Processing information • Making deductions • Analysing relationships 	Solving linear and simultaneous equations using different methods. Eliciting the basic principle of logarithm. Solving problems based on the laws of logarithm Revising the congruency properties of triangles and doing problems based on it. Problems based on properties of isosceles triangles and inequalities
August	<ul style="list-style-type: none"> • 12 Mid-point & Intercept Theorems • 13 Pythagoras Theorem • 14 Rectilinear figures 	<ul style="list-style-type: none"> • Apply Midpoint theorem and equal intercept theorem. • Learn Pythagoras theorem. • Angle sum property-interior and exterior in polygons • Explain the properties of quadrilaterals. 	<ul style="list-style-type: none"> • Processing the information • Predicting outcomes • Comparing and contrasting • Classifying 	Simple problems based on theorems. Discussing the relevance of Pythagoras theorem. Research on Pythagoras (mathematician) and his contributions. Finding exterior and interior angles of polygons. Mind mapping based on types of quadrilaterals.
September – October	<ul style="list-style-type: none"> • 15 Construction of polygons • 16 Area • 18 Statistics • 19 Mean and Median • 20 Area and perimeter of plane figures 	<ul style="list-style-type: none"> • Understanding and recognition of discrete and continuous variables. • Understand the area propositions • Drawing a frequency polygon. • Finding mean and median of ungrouped data. • Recall area and perimeter of square and rectangle. Using Herons formulae. • Derive the formulae for quadrilaterals and circles. 	<ul style="list-style-type: none"> • Processing the information • Predicting outcomes • Comparing and contrasting • Classifying • Extending ideas to life related problems 	Construction of quadrilaterals and polygons Solving problems based on properties of areas of triangles and parallelograms. Grouped frequency distribution .To convert discontinuous intervals to continuous intervals. Computing mean and median. Constructing histograms and frequency polygon. Problems based on area and perimeter of triangle and circles .Direct application problems of including outer and inner area.

First Summative Assessment
Session Two November 2018-March 2019

Duration	Topic	Specific objectives	Thinking skills	Learning process
November	<ul style="list-style-type: none"> 21 Solids 17 Circles 26 Co-ordinate Geometry 27 Graphical Solution Ex 28 Distance formula Ex 	<ul style="list-style-type: none"> Recall the concept of volume and surface area. Apply the concepts to solve problems. Properties of arcs and chords of a circle Understand the Cartesian system and plotting of points in a plane. Finding distance between two points using formula. 	<ul style="list-style-type: none"> Planning what to do Classifying Applying imagination Extending Ideas Processing the information 	Observation of solids. Solving problems of cube and cuboid. Problems based on properties of circles. Explaining the Cartesian system, dependent and independent variables and graphs of axes. Solving problems based on distance formula.
December	<ul style="list-style-type: none"> 22 Trigonometrical Ratios 23 Trigonometrical Ratios of Standard angles 24 Solution of right triangles 25 complementary angles 	<ul style="list-style-type: none"> Recall the basics of right angled triangles. Identify the sides. Explain the Trigonometric ratios. Apply the values of standard angles. Concept of trigonometric ratios of complementary angles, 	<ul style="list-style-type: none"> Comparing and contrasting Processing information Making deductions Classifying 	Revising the various parts of right angled triangles, Eliciting the basic trigonometric ratios with examples. Problem solving: group work Solving right triangles. Direct application of complementary angles.
January	Grade X <ul style="list-style-type: none"> 4 Linear Inequations 5 Quadratic Equations Solving 6 Problems (Quadratic Equations) 	<ul style="list-style-type: none"> Learn to solve linear in equations and quadratic equations. 	<ul style="list-style-type: none"> Planning what to do Giving reasons Processing information Making deductions Testing conclusion 	Expressing the solutions of linear inequations on the number line. Explaining the standard form of a quadratic equation and solving them Solving quadratic equations using factorization and formula.
February	<ul style="list-style-type: none"> 7 Ratio and proportion 8 Remainder and Factor Theorem 9 Matrices 	<ul style="list-style-type: none"> Recall ratio and proportion and to solve higher level problems. Recall polynomials. Explain the remainder theorem with examples. Understand the purpose and concept of matrices and their operations. 	<ul style="list-style-type: none"> Classifying Sequencing Analysing relationship Asking relevant questions Evaluating information 	Solving problems using properties of proportion Eliciting remainder and factor theorem. Doing application problems. Eliciting basic concepts of matrices and doing matrix operations. Discussing the applications of matrices in other fields.

Facilitators' names: Mr. M.A.Raju, Mrs. Bindu P. , Mrs. Jisha ,Mrs.Nirmala.

Approved by the Principal

RESOURCES

Books:

Textbooks : Concise Mathematics Grade 9 ,Concise Mathematics Grade 10 (Selina Publications)

- Together with Mathematics – Ravinder Kumar Vimal, Vinod Kumar Jain
- Understanding ICSE Mathematics- M.L. Aggarwal
- Matrix Mathematics (Pearson Longman)

INTERACTIVE software/websites

- www.math-aids.com
- www.bbc.co.uk/schools/gcsebitesize
- www.in.ixl.com
- www.alphamath.in