| Months | PERIODS | Lessons/Topics covered | Learning Objectives <br> Students will be able to : | SUGGESTED ACTIVITIES | ASSESSMENTS | EXPECTED LEARNING OUTCOMES Students are able to : |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| April 2021 | 17 | NUMBER <br> SYSTEMS <br> Real Numbers | 1.Students will be able to represent natural numbers, integers, rational numbers on the number line. <br> 2. Students will be able to represent terminating / non-terminating recurring decimals on the number line through successive magnification. <br> 3. Students will be able to represent Rational numbers as recurring/ terminating decimals. <br> 4.Students will be able to solve problems on operations on real numbers. <br> 5. Students will be able to raise examples of non- recurring/non-terminating decimals. <br> 6.Students will be able to explain existence of non-rational numbers (irrational numbers) such as $\sqrt{ } 3$, and their representation on the number line. <br> 7.Students will be able to explain that every real number is represented by a unique point on the number line and conversely, viz. every point on the number line represents a unique real number. <br> 8. Students will be able to define nth root of a real number. <br> 9. Students will be able to solve problems related with rationalization (with precise meaning) of real numbers of the type and | LAB ACTIVITY <br> 1.To represent irrational numbers on the number line. <br> 2.To represent square root spiral on the number line. 3.To represent $\sqrt{ } 9.3$ on number line by geometric method | CLASS QUIZ <br> Questions from <br> N.C.E.R.T/ <br> Extra marks <br> Worksheets | 1. Students are able to represent natural numbers, integers, rational numbers on the number line. <br> 2. Students are able to represent terminating / non-terminating recurring decimals on the number line through successive magnification. <br> 3. Students are able to represent rational numbers as recurring/terminating decimals. <br> 4.Students are able to solve problems on operations on real numbers. <br> 5. Students are able to raise examples of non- recurring/non-terminating decimals. <br> 6.Students are able to explain existence of non-rational numbers (irrational numbers) such as $\sqrt{3}$ and their representation on the number line. <br> 7.Students are able to explain that every real number is represented by a unique point on the number line and conversely, viz. every point on the number line represents a unique real number. <br> 8. Students are able to define nth root of a real number. <br> 9. Students are able to solve problems |


|  |  |  | (and their combinations) $1 / \mathrm{a}+\mathrm{b} V_{\mathrm{x}}$ and $1 / \sqrt{ } a+\sqrt{ } b$ where $x$ and $y$ are natural Number and a and b are integers. <br> 10. Students will be able to recall the laws of exponents with integral powers. Rational exponents with positive real bases and will be able to solve related Problems. |  |  | related with rationalization (with precise meaning) of real numbers of the type and (and their combinations) $1 / a+b V_{\mathrm{x}}$ and $1 / \sqrt{ } a+\sqrt{ } b$ where $x$ and $y$ are natural number and a and are integers. 10. Students are able to recall of laws of Exponents with integral powers. Rational exponents with positive real bases and are able to solve related Problems. <br> RSC : KNOWLEDGE BASED PROBLEM SOLVINF SKILLS DEVELOPMENT . |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| July 2021 | 23 | ALGEBRA <br> Polynomials | 1.Students will be able to Define polynomial in one variable, with examples and counter examples. <br> 2.Students will be able to find Coefficients of a polynomial, terms of a polynomial and zero polynomial. <br> 3.Students will be able to distinguish and calculate degree of a polynomial, Constant, linear, quadratic and cubic polynomials. Monomials, binomials, trinomials. <br> 4.Students will be able to find factors and multiples. and zeros of a polynomial. <br> 5.Students will be able to state and prove Remainder Theorem and factor theorem with examples <br> 6.Students will be able to. factorise polynomials in the form $a x 2+b x+c, a \neq 0$ where $a, b$ and $c$ are real numbers, and of cubic polynomials using the Factor Theorem. <br> 7. Students will be able to recall of algebraic expressions and identities. <br> 8. Students will be able to Verify the identities and their use in factorization of polynomials as given below. $\begin{gathered} (x+y+z)^{2}=x^{2}+y^{2}+z^{2}+2 x y+2 y z+2 z x \\ (x+y)^{3}=x^{3}+y^{3}+3 x y(x+y) \end{gathered}$ | LAB ACTIVITY <br> 1. To verify the identity $a^{3}$ $-b^{3}=(a-b)\left(a^{2}+a b+\right.$ <br> $b^{2}$ ), for simple cases using a set of unit cubes. <br> 2. To verify the identity $a^{3}$ $+b^{3}=(a+b)\left(a^{2}-a b+\right.$ $b^{2}$ ), for simple cases using a set of unit cubes. <br> 3. To verify the identity (a $+b)^{3}=a^{3}+b^{3}+3 a b(a+$ b), for simple cases using a set of unit cubes. <br> 4. To verify the identity (a $-b)^{3}=a^{3}-b^{3}-3 a b(a-$ <br> b), for simple cases using a set of unit cubes. | CLASS QUIZ <br> Questions from <br> N.C.E.R.T/ <br> Extra marks <br> Worksheets <br> CLASS <br> TEST | 1.Students are able to Define polynomial in one variable, with examples and counter examples. <br> 2.Students are able to find Coefficients of a polynomial, terms of a polynomial and zero polynomial. <br> 3.Students are able to distinguish and calculate degree of a polynomial, <br> Constant, linear, quadratic and cubic polynomials. Monomials, binomials, trinomials. <br> 4.Students are able to find factors and multiples. and zeros of a polynomial. <br> 5.Students are able to state and prove Remainder Theorem and factor theorem with examples <br> 6.Students are able to. factorise polynomials in the form $\mathrm{ax}^{2}+\mathrm{bx}+\mathrm{c}, \mathrm{a}$ $\neq 0$ where $\mathrm{a}, \mathrm{b}$ and c are real numbers, and of cubic polynomials using the Factor Theorem. <br> 7. Students are able to recall of algebraic expressions and identities. <br> 8. Students are able to Verify the identities and their use in factorization |


|  |  |  | $\begin{aligned} &(x-y)^{3}=x^{3}-y^{3}-3 x y(x-y) \\ & x^{3}+y^{3}=(x+y)\left(x^{2}+y^{2}-x y\right) \\ & x^{3}-y^{3}=(x-y)\left(x^{2}+y^{2}+x y\right) \\ & x^{3}+y^{3}+z^{3}-3 x y z= \\ &(x+y+z)\left(x^{2}+y^{2}+z^{2}-x y-y z-z x\right) \end{aligned}$ |  |  | of <br> polynomials as given below. $\begin{gathered} (x+y+z)^{2}=x^{2}+y^{2}+z^{2}+2 x y+2 y z+ \\ 2 z x \\ (x+y)^{3}=x^{3}+y^{3}+3 x y(x+y) \\ (x-y)^{3}=x^{3}-y^{3}-3 x y(x-y) \\ x^{3}+y^{3}=(x+y)\left(x^{2}+y^{2}-x y\right) \\ x^{3}-y^{3}=(x-y)\left(x^{2}+y^{2}+x y\right) \\ x^{3}+y^{3}+z^{3}-3 x y z= \\ (x+y+z)\left(x^{2}+y^{2}+z^{2}-x y-y z-z x\right) \end{gathered}$ <br> RSC : APPLICATION BASED <br> PROBLEM SOLVINF SKILLS <br> DEVELOPMENT . |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| July 2021 | 09 | COORDINATE <br> GEOMETRY <br> Coordinate Geometry | 1.Students will be able to identify Cartesian plane, coordinates of a point, names and terms associated with the coordinate plane and notions. <br> 2.Students will be able to plot points in the cartesian plane. | LAB ACTIVITY <br> 1.To obtain mirror images of figures with respect to a given line on a graph paper. | CLASS QUIZ <br> Questions from <br> N.C.E.R.T/ <br> Extra marks <br> Worksheets | 1.Students are able to identify Cartesian plane, coordinates of a point, names and terms associated with the coordinate plane and notions. <br> 2. Students are able to plot points in the cartesian plane. |
| Aug 2020 | 14 | ALGEBRA Linear $\mathrm{Eq}^{\mathrm{n}}$ in two variables | 1.Students will be able to recall of linear equations in one variable. <br> 2.Students will be able to identify equation in <br> two variables. <br> 3.Students will be able to solve linear equations of the type $a x+b y+c=0$. <br> 4.Students will be able to explain that a linear equation in two variables has infinitely many solutions and will be able to justify their being written as ordered pairs of real numbers, and plotting them and showing that they lie on a line. <br> 5.Students will be able to draw graph of linear equations in two variables. <br> 6.Students will be able to raise Examples, problems from real life and will be able to solve problems on Ratio and Proportion (with algebraic and graphical solutions | LAB ACTIVITY <br> To interpret geometrically the factors of a quadratic expression of the type $\mathrm{ax}^{2}$ $+b x+c$, using square grids, strips and paper slips. | CLASS QUIZ <br> Questions from <br> N.C.E.R.T/ <br> Extra marks <br> Worksheets <br> CLASS TEST <br> PRE-MID TERM <br> $29^{\text {th }}$ July-10 ${ }^{\text {th }}$ <br> August | 1.Students are able to recall of linear equations in one variable. <br> 2.Students are able to identify equation in <br> two variables. <br> 3.Students are able to solve linear equations of the type $a x+b y+c=0$. <br> 4.Students are able to explain that a linear <br> equation in two variables has infinitely many solutions and will be able to justify <br> their being written as ordered pairs of real <br> numbers, and plotting them and showing <br> that they lie on a line. <br> 5.Students are able to draw graph of linear <br> equations in two variables. <br> 6.Students are able to raise Examples, |


|  |  |  | being done simultaneously). |  |  | problems from real life and will be able to solve problems on Ratio and Proportion (with algebraic and graphical solutions being done simultaneously). <br> RSC: PROBLEM SOLVINF SKILLS DEVELOPMENT THROUGH CREATIVITY. <br> BASED ON ART INTEGRATION |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Aug 2021 | 06 | GEOMETRY <br> Introduction to Euclid Geometry | 1.Students will be able to recall History Geometry in India and Euclid's geometry. <br> 2.Students will be able to recall Euclid's method of formalizing observed phenomenon into rigorous Mathematics with definitions, common/obvious notions, axioms/postulates and theorems. <br> 3.Students will be able to solve problems based on the five postulates of Euclid. <br> 4.Students will be able to explain equivalent versions of the fifth postulate. <br> 5.Students will be able to explain with examples the relationship between axiom and theorem, for example:(Axiom) 1. <br> Given two distinct points, there exists one and only one line through them.(Theorem) <br> 6.Students will be able to prove Two distinct lines cannot have more than one point in common. | LAB ACTIVITY <br> 1. To make nets for a right triangular prism and a right triangular pyramid (regular tetrahedron) and obtain the formula for the total surface area. <br> 2. To verify Euler's formula for different polyhedron : prism, pyramids and octahedron. | CLASS QUIZ <br> Questions from <br> N.C.E.R.T/ <br> Extra marks <br> Worksheets | 1.Students are able to recall History Geometry in India and Euclid's geometry. 2.Students are able to recall Euclid's method of formalizing observed phenomenon into rigorous Mathematics with definitions, common/obvious notions, axioms/postulates and theorems. <br> 3.Students are able to solve problems based on the five postulates of Euclid. <br> 4.Students are able to explain equivalent versions of the fifth postulate. <br> 5.Students are able to explain with examples the relationship between axiom and theorem, for example:(Axiom) 1. <br> Given <br> two distinct points, there exists one and only one line through them.(Theorem) <br> 6. Students are able to prove Two distinct lines cannot have more than one point in <br> common. <br> ACTIVITES <br> BASED ON ART INTEGRATION <br> AND PROJECT BASED LEARNING |

1. Students will be able to prove, If a ray stands on a line, then the sum of the two adjacent angles so formed is $180^{\circ}$ and the converse.
2. Students will be able to Prove, If two lines intersect, vertically opposite angles are equal.
3.Students will be able to solve problems on corresponding angles, alternate angles, interior angles when a transversal intersects two parallel lines
3. Students will be able to prove that lines which are parallel to a given line are parallel.
4. Students will be able to prove that the sum of the angles of a triangle is $180^{\circ}$.
5. Students will be able to prove that, if a side
of a triangle is produced, the exterior angle so formed is equal to the sum of the two interior opposite angles.
7.Students will be able to solve problems based on above properties of line and angles
including application of related theorems.

Sept. 2021
20
Oct. 2021

GEOMETRY Lines and Angles

GEOMETRY
Triangles

## LAB ACTIVITY

1.To verify sum of all interior angles of a triangle is $180^{\circ}$.
2. To verify the existence of parallel lines by paper folding activity related with corresponding angles, alternate interior angles and co- interior angles.

CLASS QUIZ
Questions from
N.C.E.R.T/

Extra marks Worksheets

CLASS QUIZ Questions from N.C.E.R.T/ Extra marks Worksheets CLASS TEST
. Students are able to prove, If a ray stands on a line, then the sum of the two adjacent angles so formed is $180^{\circ}$ and the converse.
2. Students are able to Prove, If two lines intersect, vertically opposite angles are equal.
3.Students are able to solve problems on corresponding angles, alternate angles, interior angles when a transversal intersects
two parallel lines.
4. Students are able to prove that lines which are parallel to a given line are parallel.
5. Students are able to prove that the sum of the angles of a triangle is $180^{\circ}$.
6. Students are able to prove that, if a side
of a triangle is produced, the exterior angle
so formed is equal to the sum of the two interior opposite angles
7.Students are able to solve problems based on above properties of line and angles
including application of related theorems.

## ACITIVITES BASED ON

BASED ON ART INTEGRATION

1. Students are able to prove, Two triangles are congruent if any two sides and the included angle of one triangle is equal to any two sides and the included angle of the other triangle (SAS Congruence).
2 Students are able to prove that two triangles are congruent if any two angles and the included side of one triangle is equal to any two angles and the included side of the other triangle (ASA
Congruence).
3 Students are able to prove two triangles

## riangle (SSS Congruence).

4. Students will be able to prove two right triangles are congruent if the hypotenuse and a side of one triangle are equal (respectively) to the hypotenuse and a side of the other triangle. (RHS Congruence)
5. Students will be able to prove the angles opposite to equal sides of a triangle are equal.
6. Students will be able to prove the sides opposite to equal angles of a triangle are equal.
7. Students will be able to prove triangle inequalities and relation between 'angle and facing side' inequalities in triangles.
8.Students will be able to solve the problems of triangle congruency and general properties.

## 2.. To illustrate that the

 internal bisectors of angles of a triangle concur at a point (called the in centre), which always lies inside the triangle.3. To illustrate that the altitudes of a triangle concur at a point (called the
Ortho centre) and that it falls.
4.to verify that sum of any two sides of a triangle is always greater than the third side.
To verify that sum of any two sides of a triangle is always greater than the third side.
4. To verify that the difference of any two sides of a triangle is always less than the third side
5. To verify that the difference of any two sides of a triangle is always less
than the third side.
6. To explore criteria of congruency of triangles using a set of triangle cut outs.
(a). inside for an acute angled triangle.
(b). at the right angle vertex for a right angled triangle.
(c). outside for an obtuse angled triangle.
7. To illustrate that the medians of a triangle concur at a point (called the
centroid), which always

## are congruent if the three sides of one

 triangle are equal to three sides of the other triangle (SSS Congruence).4. Students are able to prove two right triangles are congruent if the hypotenuse and a side of one triangle are equal (respectively) to the hypotenuse and a side of the other triangle. (RHS Congruence)
5. Students are able to prove the angles opposite to equal sides of a triangle are equal.
6. Students are able to prove the sides opposite to equal angles of a triangle are equal.
7. Students are able to prove triangle inequalities and relation between 'angle and facing side' inequalities in triangles. 8.Students are able to solve the problems of triangle congruency and general properties.

## ACTIVITIES BASED ON

RSC : ENVIRONMENT AWARENESS THROUGH STUDY OF DIFFERENT

GEOMETRICAL SHAPES IN DAY
TO- DAY LIFE SITUATIONS.

BASED ON ART INTEGRATION



## TERM- II

| MONTH | PERIODS | Lessons/Topics covered | Learning Objectives Students will be able to : | SUGGESTED ACTIVITIES | ASSESSMENTS | EXPECTED LEARNING OUTCOMES Students are able to : |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Nov . 2021 | 07 | GEOMETRY <br> Area of Parallelogram and Triangles | 1.Students will be able to recall the concept of area and area of a rectangle. <br> 1. Students will be able to Prove Parallelograms on the same base and between the same parallels have equal area. <br> 2. Students will be able to prove triangles on <br> the same base (or equal bases) and between <br> the same parallels are equal in area. <br> 3.Students will be able to solve different questions based on area of parallelogram and triangles on the same base and between same parallels. | LAB <br> ACTIVITY <br> To carry out the following activities using a geo board: <br> 1. Find the area of any triangle. <br> 2. Find the area of any polygon by completing the rectangles. <br> 3. Obtain a square on a given line segment. <br> 4. Given an area, obtain different polygons of the same area. <br> 2. To obtain a parallelogram by paper-folding. <br> 3. To show that the area of a parallelogram is product of its base and height, using paper cutting and pasting. (Ordinary parallelogram and slanted parallelogram) 4. To show that the area of a triangle is half the product of its base and height using paper cutting and pasting. (Acute, right and obtuse angled triangles) <br> 5. To show that the area of a rhombus is half the product of its diagonals using paper cutting and | CLASS QUIZ <br> Questions from <br> N.C.E.R.T/ <br> Extra marks <br> Worksheets | 1.Students are able to recall the concept of area and area of a rectangle. <br> 1. Students are able to Prove Parallelograms on the same base and between the same parallels have equal area. <br> 2. Students are able to prove triangles on the same base (or equal bases) and between the same parallels are equal in area. <br> 3.Students are able to solve different questions based on area of parallelogram and triangles on the same base and between same parallels. <br> RSC : APPLICATION BASED PROBLEM SOLVINF SKILLS DEVELOPMENT . <br> AND ART INTEGRATION |


|  |  |  |  | pasting. <br> 6. To show that the area of a trapezium is equal to half the product of its altitude and the sum of its parallel sides and its height, using paper cutting and pasting. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Nov. 2021 | 15 | GEOMETRY <br> Circles | 1.Students will be able to, define circle and related concepts-radius, circumference, diameter, chord, arc, secant, sector, segment, subtended angle through raising examples. <br> 2. Students will be able to prove, equal chords of a circle subtend equal angles at the center and its converse. <br> 3. Students will be able to prove, the perpendicular from the center of a circle to a chord bisects the chord and conversely, the line drawn through the center of a circle to bisect a chord is perpendicular to the chord. <br> 4. Students will be able to prove, There is one and only one circle passing through three given non-collinear points. <br> 5. Students will be able to prove, equal chords of a circle (or of congruent circles) are equidistant from the center (or their respective centers) and conversely. <br> 6. Students will be able to prove, the angle subtended by an arc at the center is double the angle subtended by it at any point on the remaining part of the circle. <br> 7. Students will be able to prove, Angles in the same segment of a circle are equal. <br> 8. Students will be able to prove, If a Line segment joining two points subtends equal angle at two other points lying on the same side of the line containing the segment, the four points lie on a circle. <br> 9. Students will be able to prove, the sum of either of the pair of the | LAB <br> ACTIVITY1. <br> To give a suggestive demonstration of the formula that the area of a circle is half the product of its circumference and radius. (Using formula for the area of triangle) | CLASS QUIZ <br> Questions from <br> N.C.E.R.T/ <br> Extra marks <br> Worksheets | 1.Students are able to, define circle and related concepts-radius, circumference, diameter, chord, arc, secant, sector, segment, subtended angle through raising examples. <br> 2. Students are able to prove, equal chords of a circle subtend equal angles at the center and its converse. <br> 3. Students are able to prove, the perpendicular from the center of a circle to a chord bisects the chord and conversely, the line drawn through the center of a circle to bisect a chord is perpendicular to the chord. <br> 4. Students are able to prove, There is one and only one circle passing through three given non-collinear points. <br> 5. Students are able to prove, equal chords of a circle (or of congruent circles) are equidistant from the center (or their respective centers) and conversely. <br> 6. Students are able to prove, the angle subtended by an arc at the center is double the angle subtended by it at any point on the remaining part of the circle. <br> 7. Students are able to prove, Angles in the same segment of a circle are equal. <br> 8. Students are able to prove, If a line segment joining two points subtends equal angle at two other points lying on the same side of the line containing the segment, the four points lie on a circle. <br> 9. Students are able to prove, the sum of either of the pair of the opposite angles of a cyclic quadrilateral is $180^{\circ}$ and its converse. <br> 10. Students are able to solve problems based on the above mentioned theorems of circle. <br> RSC : PROBLEM SOLVING BY |


|  |  |  | opposite angles of a cyclic quadrilateral is $180^{\circ}$ and its converse. <br> 10. Students will be able to solve problems based on the above mentioned theorems of circle. |  |  | COLLOBORATIVE LEARNING THROUGH ACTIVITIES. <br> AND ART INTEGRATION |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Dec. 2021 | 10 | GEOMETRY <br> Constructions | 1. Students will be able to construct bisectors of line segments and angles of measure $60^{\circ}, 90^{\circ}, 45^{\circ}$ etc. and equilateral triangles. <br> 2. Students will be able to construct a triangle, given its base sum/difference of the other two sides and one base angle. <br> 3. Students will be able to construct a triangle of given perimeter and base angles. | LAB ACTIVITY by PAPER FOLDING TO FIND <br> 1.The mid point of a line segment, 2. The perpendicular bisector of a line segment, <br> 3. the bisector of an angle, <br> 4. The <br> perpendicular to a line from a point given outside it, 5. The perpendicular to a line at a point given on the line, <br> 6. The median of a triangle. | CLASS QUIZ <br> Questions from <br> N.C.E.R.T/ <br> Extra marks <br> Worksheets | 1. Students are able to construct bisectors of line segments and angles of measure $60^{\circ}, 90^{\circ}, 45^{\circ}$ etc. and equilateral triangles. <br> 2. Students are able to construct a triangle, given its base, sum/difference of the other two sides and one base angle. <br> 3. Students are able to construct a triangle of given perimeter and base angles <br> RSC : COMMUNICATION SKILLS DEVELOPMENT AND THINKING SKILLS ENHANCEMENT THROUGH ACTIVITIES. <br> AND ART INTEGRATION |
| Jan. 2022 | 04 | MENSURATION <br> Heron's Formula | 1. Students will be able to solve the problems related with finding area of a triangle using Heron's formula (without proof) and its application in finding the area of a quadrilateral. |  | CLASS QUIZ <br> Questions from <br> N.C.E.R.T/ <br> Extra marks Worksheets CLASS TEST | 1. Students are able to solve the problems related with finding area of a triangle using Heron's formula (without proof) and its application in finding the area of a quadrilateral. <br> ACTIVITIES BASED ON <br> ART INTEGRATION |
| Jan 2022 | 12 | MENSURATION <br> Surface areas \& volumes | 1. Students will be able to solve problems of finding surface areas and volumes of cubes, cuboids, spheres (including hemispheres) and right circular cylinders and cones. | LAB <br> ACTIVITY <br> 1.To explain surface areas of cube and cuboids through paper folding activity. <br> 2. To verify volume of cone is $1 / 3$ of volume of cylinder through paper folding/model making. |  | 1. Students are able to solve problems of finding surface areas and volumes of cubes, cuboids, spheres (including hemispheres) and right circular cylinders and cones. <br> RSC : COMMUNICATION SKILLS DEVELOPMENT THROUGH DEMONSTRATION. <br> ACTIVITIES BASED ON <br> ART INTEGRATION |


| Feb. 2022 | 13 | STATISTICS | 1. Students will be able to solve problems of collecting, representing of data through tabular form, ungrouped / grouped, bar graphs, histograms (with varying base lengths), frequency polygons. <br> 2. Students will be able to solve problems related with measure of central tendency through Mean, median and mode of ungrouped data. | PROJECT <br> Representation of data and analysis through Bar graph, Histogram and frequency polygon through data collected in real life situations. | CLASS QUIZ <br> Questions from <br> N.C.E.R.T/ <br> Extra marks <br> Worksheets | 1. Students are able to solve problems of collecting, representing of data through tabular form, ungrouped / grouped, bar graphs, histograms (with varying base lengths), frequency polygons. <br> 2. Students are able to solve problems related with measure of central tendency through Mean, median and mode of ungrouped data. <br> RSC : TEAM WORK,LEADERSHIP AND COMMUNICATION SKILLS DEVELOPMENT THROUGH THE PROJECT. <br> ACTIVIES BASED ON PROJECT BASED LEARNING. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Feb. 2022 | 9 | PROBABILITY | 1. Students will be able to recall and raise <br> examples related with History, repeated experiments and observed frequency approach to probability. <br> 2. Students will be able to solve problems <br> based on empirical probability. <br> 3. Students will be able to solve <br> problems <br> of empirical probability based on real <br> -life situations, and from examples used in the chapter on statistics). |  | CLASS QUIZ <br> Questions from <br> N.C.E.R.T/ <br> Extra marks <br> Worksheets | 1. Students are able to recall and raise examples related with History, repeated experiments and observed frequency approach to probability. <br> 2. Students are able to solve problems based on empirical probability. <br> 3. Students are able to solve problems of empirical probability based on real -life situations, and from examples used in the chapter on statistics). <br> RSC : PROBLEM SOLVING SKILLS DEVELOPMENT THROUGH REAL LIFE SITUATIONS. |
|  |  |  |  |  |  |  |


| MONTH | TOPIC | LEARNING OBJECTIVE | LEARNING OUTCOME | Suggested Activities for Art Integration |  | PBL <br> Theme | ASSESSMENT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| APRIL <br> TO 10 ${ }^{\text {TH }}$ <br> MAY <br> $4^{\text {TH JULY }}$ <br> 29 ${ }^{\text {TH }}$-JULY <br> $10^{\text {TH }}$ AUG <br> AUGUST <br> SEPT | Chapter 1: Matter in our Surroundings <br> Matter Characteristics <br> States of matter forces of attraction and <br> space <br> between particles of matter <br> $\square$ Interconversion of the states of matter <br> $\square K=C+273$ <br> $\square$ Latent Heat <br> $\square$ Evaporation <br> $\square$ Factors affecting the rate of Evaporation <br> $\square$ Discussion of NCERT exercise. <br> *Deleted portion by CBSE for the session-2021-22 has been marked with red ink <br> Syllabus for Term:- Ist As per CBSE Guideline <br> Term I ${ }^{\text {st }}$ (05 July to <br> November2021) <br> Chapter - 2: Is Matter Around Us Pure? <br> Elements and Compounds as pure substances. <br> Mixtures and pure substances. <br> Mixtures -homogeneous and heterogeneous. <br> Classification of Elements -metals, nonmetals and metalloids. | The students will be able to- <br> $\square$ Describe matter and the <br> eharacteristics of the <br> particles of matter. <br> $\square$ Understand the <br> differences between the <br> variots states of matter. <br> $\square$ Evaluate the conditions <br> for the interconversion of <br> various states of matter. <br> $\square$ Explain Iatent heat of <br> fusion and latent heat of <br> vaporisation. <br> $\square$ Discuss Evaporation and <br> explain various factors <br> influencing evaporation. <br> The students will be able to- <br> - Describe and differentiate between elements, compounds and mixtures with examples. <br> - Discuss homogeneous and heterogeneous mixtures with examples. <br> - Explain physical and chemical changes with examples. <br> - Describe the different types of solutions and their properties <br> - understand the properties of True solution <br> The students will be able to- <br> - calculate the solubility and concentration of the | The students would be able to$\square$ Define matter with examples from day today life and state the composition of matter. $\square$ Analyse the characteristics of the particles of matter applicable in day today life activities. $\square$ Reason out the differences between the various states of matter on the basis of rigidity, fluidity, compressibility, density, i.e, shape, density, diffusion etc. $\square$ Explain terms related-melting, freezing, boiling, condensation and sublimation. <br> The students would be able to- <br> - Classify substances as pure (element, compound) and impure (mixture) substances. <br> - Analyse the differences in the properties of elements, compounds and mixtures. <br> classify elements as metals, nonmetals and metalloids based on their general physical properties. - Classify mixtures as homogeneous and heterogeneous mixtures with examples from daily lives. <br> - analyse the differences in physical and chemical changes and apply their knowledge and understanding in daily | To determine the melting point of ice and beiling point of water <br> To separate the components of a mixture of ammonium chloride, common salt and sand by sublimation. <br> To the study of the properties of mixture ( iron fillings and sulphur powder) and compound (iron sulphide) on the <br> basis of their behaviour | Environment | PBL: - <br> Impact of Covid on socioEconomic culture of society. | $\square$ NCERT intext questions, exercise and concept based extraquestions. OOnline assessment by quiz or worksheet and off line assessment by writing based notebook work. <br> $\square$ NCERT intext questions, exercise and concept based extra questions. Online assessment by quiz or worksheet and off line assessment by writing based notebook work. $1^{\text {st }}$ Periodic test (09Aug- 19 Aug2021) |



(Observations and Conclusions)
Nuclear model of an atom by

## Rutherford

verage atomic mass of the isotopes with examples through numericals.
Compare the number of sub atomic particles of various isotopes of the same element.
$\square$ Write electronic
configuration of the various isotopes of the same element.
$\square$ Write the applications of isotopes in day today life. The students would be able to-
$\square$ Calculate the average atomic mass of the isotopes and give explanation for fractional atomic masses.
$\square$ Revise and reinforce all the concepts already learnt
$\square$ Recall and Remember all the concepts
detail along with the supporting reasons
Students would be able to-
$\square$ Explain Bohr's model of an atom and critically analyse by comparing with the previous proposed models of
atom.
$\square$ Write the electronic
configurations of first twenty elements along with their valency with explanation.
$\square$ Write electronic configuration of the ions formed by the first twenty elements excluding the noble gases.
$\square$ Comprehend the meanings of atomic number and mass number and try to represent the element with them. Analyse the difference between isotopes and isobars with examples.

Term: - $2^{\text {nd }}$ as per CBSE

## FINE ART (PAINTING)

| S.N. | UNIT | PERIOD | CHAPTER | EXPECTED MONTH | HOME <br> ASSIGNMENT AND PROJECT | EXERCISE PREPARED TO SUPPLEMENT THESE GIVEN IN TEXT BOOK OR ASSIGNMENT SOURCES LIBRARY NEWS PAPER, MAGAZINE AND REFERENCE BOOK,INTERNET ETC. | LESSON AS PER SYLLABUS PRACTICAL AND THEORY |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. | 01 | 45 | Tessellation art | April and May | Landscape | INTRNET OTHER ART BOOK RESOURCESS AND ACCORDING TO CBSE | PRACTICAL- Fruit Sketching and shading, Birds Sketching and shading. Summer holiday assignment <br> THEORY- color theory |
| 2. | 02 | 48 | 2 D Design | July | Objective Sketching | INTRNET OTHER ART BOOK RESOURCESS AND ACCORDING TO CBSE | PRACTICAL- My Art room with principal of design THEORY- - color theory |
| 3. | $\begin{gathered} \hline 03 \\ \text { FA-I } \\ \hline \end{gathered}$ | 48 | Man maid Drawing | August | Human Sketching | INTRNET OTHER ART BOOK RESOURCESS AND ACCORDING TO CBSE | PRACTICAL- Still jug draw and paint. THEORY- Introduction to Art history |
| 4. | 04 | 45 | Landscape Painting | September | Sketching | INTRNET OTHER ART BOOK RESOURCESS AND ACCORDING TO CBSE | PRACTICAL- School Campus, THEORY- Art awareness |
| 5. | 05 | 48 | Still Life | October | Nature Sketching | INTRNET OTHER ART BOOK RESOURCESS AND ACCORDING TO CBSE | PRACTICAL- Art craft and textile from Rajasthan and Assam Collaborative Art contest Medium Mixed Media |
|  |  |  |  |  | Term- II |  |  |
| 06. | $\begin{gathered} 06 \\ \text { FA-II } \end{gathered}$ | 45 | 2 D Design | November | Building Architecture Sketching | INTRNET OTHER ART BOOK RESOURCESS AND ACCORDING TO CBSE | PRACTICAL- Mandna Art with Mathematics |
| 7. | $\underline{07}$ | 48 | Still-life | December | Winter vacation project Based on Landscape painting | INTRNET OTHER ART BOOK RESOURCESS AND ACCORDING TO CBSE | PRACTICAL- Similarities and difference between Indian contemporary Art and Tribal art form in India |
| 8. | $\underline{08}$ | 48 | Painting composition | January |  | INTRNET OTHER ART BOOK RESOURCESS AND ACCORDING TO CBSE | PRACTICAL- Memory drawing |
| 9. | $\underline{09}$ | 35 | Revision | February | Submission | INTRNET OTHER ART BOOK RESOURCESS AND ACCORDING TO CBSE | PRACTICAL- Revision of all |
| 10. | $\underline{10}$ | 31 | Revision | March |  | INTRNET OTHER ART BOOK RESOURCESS AND ACCORDING TO CBSE | PRACTICAL- Practical |

Subject: English( Class- X)

| MONTHS | Number of periods | LESSONS /TOPICS TO BE COVERED | LEARNING <br> OBJECTIVE S <br> Students will be able to: | $\begin{gathered} \text { SUGGES } \\ \text { TED } \\ \text { ACTIVIT } \\ \text { IES } \end{gathered}$ | $\begin{gathered} \text { ASSESSME } \\ \text { NTS } \end{gathered}$ | Round Square Skill | Art Integration | Project Based Learning | LEARNING OUTCOMES <br> Students are able to |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| April | 28 | First Flight: A Letter To God <br> Dust Of Snow, Fire and Ice. <br> Footprints Without Feet- .A triumph of Surgery <br> Writing- Letter to the Editor <br> Grammar- Modals | comprehend the story clearly \& develop selfrealization to inculcate moral values. compose a short poem .on the natural objects like fire, water etc <br> comprehend the story clearly \& develop selfrealization and understand the bad effect of pampering. <br> write any letter to the Editor regarding a problem. <br> frame correct | Diary entry of Lencho. <br> Write the substance of the poem. <br> Write a letter to your friend describing him how to keep a pet at home.. | Reading Comprehensi on Test <br> Class Test on the chapters <br> Class Test on Grammar and Writing | The activity will inculcate in students the spirit of tenacity. <br> The activity of letter writing on pets will develop the spirit of compassion | -Mind Map on the lesson A Letter to God PosterMaking on Global Warming | Study the story "Rikki Tikki Tawi" by Rudyard Kipling. Prepare a report making a comparative study of the two. | comprehend the chapters clearly and develop moral values. <br> compose a short poem on the natural objects. <br> realize the harm of "Pampering". |



| MONTHS | Number of periods | LESSONS /TOPICS TO BE COVERED | LEARNING <br> OBJECTIVE S <br> Students will be able to: | $\begin{aligned} & \text { SUGGES } \\ & \text { TED } \\ & \text { ACTIVIT } \\ & \text { IES } \end{aligned}$ | $\begin{gathered} \text { ASSESSME } \\ \text { NTS } \end{gathered}$ | Round Square Skill | Art Integration | Project Based Learning | LEARNING <br> OUTCOMES <br> Students are able to |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Writing-Letter of Complaint(Official) <br> Grammar.- <br> Determiners | understand <br> basic nobility in human being. <br> Clearly <br> articulate the format of the letter. <br> articulate correct words to fill in the blanks with. | Write a short paragraph on "Forgive ness". <br> Write a letter to the Head of the Institution regarding a negligenc $y$. <br> Fill in the blanks with appropriat e "Determi ners". |  |  |  |  |  |
| August | 16 | R E V F First Flight- From the Diary of Anne Frank Footprints Without Feet- Footprints |  | $\begin{array}{ll} \hline \mathbf{F} & \mathbf{O} \\ \mathbf{R} & \\ \mathbf{P} & \\ \mathbf{E} & \end{array}$ | F I R <br> S   <br>    <br> R  I <br> O   | T P <br> $\mathbf{E}$  <br> D I <br> C  | $\begin{array}{lll} \hline \mathbf{R} & \mathbf{I} & \mathbf{O} \\ \text { A } & \mathbf{L} & \end{array}$ | D I C <br> The activity will inculcate the spirit of "Compassion".. | A $\mathbf{L}$ <br> develop the skill of comprehending lessons and understand the basic values. |


| MONTHS | Number of periods | LESSONS /TOPICS TO BE COVERED | LEARNING OBJECTIVE S Students will be able to: | $\begin{array}{\|c} \hline \text { SUGGES } \\ \text { TED } \\ \text { ACTIVIT } \\ \text { IES } \end{array}$ | ASSESSME NTS | Round Square Skill | Art Integration | Project Based Learning | LEARNING OUTCOMES <br> Students are able to |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Without Feet <br> Writing- Letter of Complaint(Business) <br> Grammar- Reported Speech(Command and Requests, Statements and Questions) | sentiments in ones life. <br> understand the fact that one should not misuse power. <br> write a letter of the same with the correct format. <br> convert speech in one into the other correctly. | Change the following sentences into the other without error. |  |  |  |  |  |
| September | 34 | First Flight- The Hundred Dresses-1 and 2. <br> Writing- Letter of Order <br> Grammar- <br> Speech-Commands | can feel the importance of sentiments in ones life. <br> write a letter of placing order with correct formating. <br> convert <br> sentences into the other correctly. |  |  | The activity will inculcate the spirit of "Compassi on." |  |  | develop the skill of comprehending lessons and understand the basic values |



| MONTHS | Number of periods | LESSONS /TOPICS TO BE COVERED | LEARNING <br> OBJECTIVE S <br> Students will be able to: | SUGGES <br> TED <br> ACTIVIT <br> IES | $\begin{gathered} \text { ASSESSME } \\ \text { NTS } \end{gathered}$ | Round Square Skill | Art Integration | Project Based Learning | LEARNING OUTCOMES <br> Students are able to |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Feet- The Making of a Scientist |  | Write an article on any scientific experimen t that you have done. |  | the spirit of environmen t <br> The activity on article on scientific experiment will inculcate the spirit of inquisitiven ess |  |  |  |
| January | 10 | R E $\mathbf{V}$ <br> T $\mathbf{H}$  <br>    <br> Poem-Animals   <br> Footprints Without Feet- The Necklace | I S I <br> O   <br> I  R <br> D   <br> understand the reasons why the poet has preferred animals to human beings. <br> assess the importance of satisfaction in one's life. | $\begin{array}{ll}\mathbf{N} & \mathbf{F} \\ \mathbf{O} & \\ \mathbf{P} & \\ \mathbf{E} & \mathbf{R}\end{array}$ <br> Write a short paragraph on the qualities possessed by Animals. <br> Write a story based on satisfactio n in one's life. | R T <br> H  <br> I O <br> D  | I R <br> D- <br> I <br> C <br> A | L <br> Make a web chart on the things you think are essential for happiness. | I O D | I $\quad \mathbf{C} \quad \mathbf{A} \quad \mathbf{L}$ |


| MONTHS | Number of periods | LESSONS /TOPICS TO BE COVERED | LEARNING OBJECTIVE S <br> Students will be able to: | $\begin{aligned} & \text { SUGGES } \\ & \text { TED } \\ & \text { ACTIVIT } \\ & \text { IES } \end{aligned}$ | $\begin{gathered} \text { ASSESSME } \\ \text { NTS } \end{gathered}$ | Round Square Skill | Art Integration | Project Based Learning | LEARNING OUTCOMES <br> Students are able to |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| February | 24 | First Flight- The Sermon at Benares, The Proposal <br> Poem- The tale of Custard the Dragon <br> Footprints Without FeetThe Hack Driver, <br> Bholi |  |  |  | The stories will develop the skill of communica tion and spirit of compassion <br> Students will be asked to write a poem on pet animals. | Poster Making on "Education is the weapon to change the world." |  |  |
| March |  | A $\quad \mathbf{N}$ | $\mathbf{N}$ $\mathbf{U}$ <br> $\mathbf{A}$  | $\mathbf{L}$ $\mathbf{E}$ <br> $\mathbf{X}$  | $\begin{array}{\|ll} \hline \mathbf{A} & \mathbf{M} \\ \mathbf{I} & \\ \hline \end{array}$ | $\mathbf{N}^{\mathbf{N}}$ | T I | O N |  |

## VIDYA NIKETAN

BIRLA PUBLIC SCHOOL,PILANI Annual Curriculum Planning (2021-22)

Subject: ENGLISH Class: IX

| H | DS |  | NING OBJECTIVE rs will be able to | ESTED ACTIVITIES | NTEGRATION \& PBL | SMENT | D SQUARE | NING OUTCOME rs are able |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | st Child | ize the importance of parents especially for small kids in our everyday life. | agraph on the topic "Role of parents in a child's life." |  | ```Questions/Refere nce to the context from the story``` | activity of <br> paragraph on the  <br> given topic will <br> develop the <br> spirit of <br> compassion.  | intify the importance of human emotions of small kids in our everyday life. |
|  |  | y beautiful mind | ```e the character of Einstein that was generous ,humble and considerate``` | picture on the life of "Albert Einstein" |  | pns/Reference to the context from the story | activity will  <br> inculcate the <br> spirit of <br> responsibility in <br> the students.  | ate the personality and character of Einstein. |
|  |  | Adventures of Toto | ```y the love that an animal should be given in our society``` | y based on the topic <br> "Mischievous Pets" |  | Questions/Refere nce to the context from the story | tivity of story on the given topic will develop the spirit of adventure. | asure the amount of love one has for the animals in the society. |
|  |  |  | iize and analyze the importance of correct use of Tense | a paragraph in simple  <br> present tense <br> describing your <br> activities during this <br> Covid 19 period at <br> home.    |  | ps and editing on tense | develop self <br> awareness in <br> students.  | ts will be able to use correct tense while using English. |
| ST |  | Kingdom of Fools | y the situation when all the people of a state or country are logic less | on any of the "Wise Men" of all times |  | ons/Reference to the context from the story | activity will <br> inculcate the <br> spirit of <br> compassion in <br> the students.  | et the consequences of living in a society of fools |


| ST | h they had. | the role of a teacher in a student's life. | ate on the topic "The school of future will have no books and no teachers." |  | bns/Reference to the context from the story | activity will inculcate the spirit of inquisitiveness in students. | pret the significance of a teacher in one's life. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ST | Sound Of Music | et the value of determination and hard work in one's life being a handicap. | ction of a singer through a Diary Entry | a power point presentation a pungi \& shehnai. 2. Write 5 differences between two musical instruments and their importance in India in 100 words. 3.Draw your favourite musicians and write about them (any 3)in 100-200 words including Bismillah Khan. | ons/Reference to the context from the story | tivity of talk on the given topic will develop the spirit of tenacity. | rticulate the secret ofsuccess being a <br> handicapped |
| $\begin{aligned} & \mathrm{MBE} \\ & \mathrm{R} \end{aligned}$ |  | uct the fact that we should be firm and determined in our approach to face the challenges of life in our everyday life. | Recitation |  | Recitation, Questions/Refere nce to the context from the story | tivity of talk on the given topic will develop the spirit of environment. | ine the fact that one should be firm in our day today life to be successful. |
| $\begin{aligned} & \mathrm{MBE} \\ & \mathrm{R} \end{aligned}$ | ttle Girl | the the fact of the reasons behind a father being harsh to the kids | up discussion on the topic "Strict Fathers" |  | ons/Reference to the context from the story | tivity of talk on the given topic will develop the spirit of compassion. | y the reasons for a father being harsh to the child in a household |



| BER | ering the storm in Ersama | ate the agony of the people affected by a calamity. | $\begin{aligned} & \text { on the "Preparedness } \\ & \text { of a community for a } \\ & \text { natural disaster" } \end{aligned}$ |  | Questions/Refere nce to the context from the story | ctivity of story <br> writing on the <br> given topic will <br> develop the <br> spirit of <br> adventure.  | ts will be able to easilycomprehend <br> chapter. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BER |  | y the fact that even a simple task can be painful if not done systematically. | clips on a talk of 2 minutes on the "Prerequisites of Packing" |  | ons/Reference to the context from the story | tivity of talk on the given topic will develop the spirit of tenacity. | he importance of being systematic in life |
| MBER | ed Speech | $\begin{aligned} & \text { ize and analyze the } \\ & \text { importance of.. } \\ & \text { Reported Speech } \\ & \hline \end{aligned}$ | orrection on the same topic |  | os and editing on Reported Speech | develop self <br> awareness in <br> students.  | ts will be able to use correct form of Reported Speech |
| MBER | ed Speech | $\begin{aligned} & \text { ize and analyze the } \\ & \text { importance of } \\ & \text { Reported Speech.. } \end{aligned}$ | $\begin{aligned} & \text { orrection on the same } \\ & \text { topic } \end{aligned}$ |  | $\begin{aligned} & \text { ps and editing on } \\ & \text { Subject-Verb } \\ & \text { Concord } \end{aligned}$ | develop self <br> awareness in <br> students.  <br>   | ts will be able to use  <br> correct Subject-Verb <br> Concord while using <br> English.  |
| MBER | st Leaf | ate and analysis of the fact that one should be optimistic in one's life. | y an experience of <br> "Depression and Rejection" through writing a story in about 250 words. |  | Questions/Refere nce to the context from the story | activity will <br> inculcate the <br> spirit of self <br> awareness.  | et the fact that one should be siding hope in our lives to be happy and cheerful. |
| MBER | h Yadav | ate the importance of determination in one's life | pe the experience of your mountain/desert expedition. | a picture of Santosh Yadav and 3 other mountaineers. <br> about their struggles and achievements in 100 words each. | ons/Reference to the context from the story | tivity of talk on the given topic will develop the spirit of tenacity. | et the significance of confidence and belief in one's life |
| MBER | Sharapova | the the power of hope and belief in one's life | sing the students in the class assuming oneself to be a Chief Guest on the occasion of "Athletic Meet" |  | ons/Reference to the context from the story | ttivity of talk on the given topic will develop the spirit of tenacity. | $\begin{aligned} & \text { y a spectrum of wide } \\ & \text { range of human } \\ & \text { emotions. } \end{aligned}$ |



## Subject: Mathematics

## Class- X

PBL : ROLE OF MATHEMATICS IN MAINTAINING HEALTH AND WELLNESS OF STUDENTS.

| Months | Lessons /Topics Covered | Learning Objectives Students will be able to: | Suggested Activities | Assessments | Expected Learning Outcomes Students are able to: |
| :---: | :---: | :---: | :---: | :---: | :---: |
| April 2021 | 1.Real Numbers <br> 2.Polynomials | 1. DEFINE FUNDAMENTAL THEOREM OF ARITHMETIC 2. APPLY FTA IN PROBLEM SOLVING. <br> 3. REPRESENT RATIONAL NUMBERS IN TERMS OF TERMINATING/ NONTERMINATING RECURRING IN DECIMAL NUMBERS. <br> 1. FIND ZEROS OF A POLYNOMIALS. <br> 2. FIND RELATIONSHIP BETWEEN ZEROS | Project: <br> .1. Early History of Mathematics(this project is meant to develop the students awareness of the history of mathematics. The students should give an outline of the major milestones in mathematics from Euclid to say Euler. | UNIT TEST | 1. Define Fundamental <br> Theorem of Arithmetic <br> 2. Apply FTA in problem solving. <br> 3. Represent rational numbers in terms of terminating/ non-terminating recurring in decimal numbers. <br> Note:(i)Students are able to enhance their knowledge about properties of Real Numbers\& Euclid's Lemma to find HCF of given numbers. <br> (ii) RSC outcome: Problem solving Communication Skills Team Work Leadership Through Project work. <br> 1.Find Zeros of a Polynomials. <br> 2.Find relationship between zeros and coefficient of quadratic |


|  |  | and Coefficient of Quadratic polynomials. <br> 3. write statement and solve simple problems on division ALGORITHM FOR polynomials with real coefficient. |  | UNIT TEST | polynomials. <br> 3.Write statement and solve simple problems on division algorithm for polynomials with real coefficients. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| May 2021 | 2.Polynomials | - Do- |  |  | - Do- <br> RSC outcome: Problem solving based on Application of identities. |
| July 2021 | ```3.Pair of Linear Equations in two Variables.``` | 1.Find number of Zeros of given graph of an equation. <br> 2. Find solution of given linear equation numerically and graphically. <br> 3. To <br> check <br> consistency/ <br> inconsistency of given <br> Pair of linear <br> Equations <br> 4. To find number of solutions based on algebraic conditions. <br> 5. Find solutions of given pair of linear equations <br> by: | Maths Lab Activity: To obtain the conditions for consistency of a system of linear equations in two variables by graphical method. | UNIT TEST | 1. Find number of Zeros of given graph of an equation. <br> 2. Find solution of given linear equation numerically and graphically. <br> 3.To check consistency/ inconsistency of given Pair of linear Equations <br> 4. To find number of solutions based on algebraic conditions. <br> 5. Find solutions of given pair of linear equations by: substitution, elimination, |





## 4 If in two triangles, the

 corresponding sides are proportional, their corresponding angles are equal the triangles are similar.5 If one angle of a triangle is equal to one angle of another triangle and the sides including these angles are proportional ,the two triangles are similar.
6. If a perpendicular is drawn from the vertex of the right angle of a right triangle to the hypotenuse , the triangle on each side of the perpendicular are similar to the whole triangle and to each other.
7. To prove the ratio of the areas of the two similar triangle is equal to the ratio of the square s of their corresponding sides.
8.To prove In a right triangle, the square on the Hypotenuse is equal to the sum of the squares on the other two sides.
9.To prove In a triangle, If the square on one side is equal to sum of the squares on the other two sides, the angles opposite to the first side is a right angle. 10 . Problems Solving based on above all concepts.


| SEPTEMBER |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| 202I |  |  |  |  |
|  |  |  |  |  |





# Annual Curriculum Plan for the session 2021-22 TERM II Subject: Mathematics <br> Class- $\mathbf{X}$ <br> PBL : ROLE OF MATHEMATICS IN DEVELOPING 

NATIONAL ATHELETES .

| Months | $\begin{aligned} & \text { Lessons } \quad / \text { Topics } \\ & \text { Covered } \end{aligned}$ | Learning Objectives Students will be able to: | Suggested Activities | Assessments | Expected Learning Outcomes Students are able to: |
| :---: | :---: | :---: | :---: | :---: | :---: |
| DECEMBER <br> 2021 | 4. Quadratic Equations | 1 . Write standard form of Quadratic equation $a x^{2}+b x+c$ $=0(a \neq 0)$. <br> 2. Find solution of Quadratic equations by factorization, and by using <br> Quadratic <br> Formula. <br> 3. Find relationship between discriminant and nature of roots. <br> 4. Find solution of application based (situational problems) based on quadratic equations related to day today activities. | Maths Lab | UNIT TEST | 1. Write standard form of Quadratic equation $\mathrm{ax}^{2}+\mathrm{bx}+\mathrm{c}=0$ $(a \neq 0)$. <br> 2. Find solution of Quadratic equations by factorization, and by using Quadratic Formula. <br> 3.Find relationship between discriminant and nature of roots. <br> 4. Find solution of application based ( situational problems) based on quadratic equations related to day today activities. <br> Note(i) Students are able to find solutions of day today problems through Quadratic equations. <br> (ii) RSC outcome: Application basedProblem Solving. <br> 1 Define A.P. |

2. Derive the formula
to find nth term and
sum of the first nth
term of A.P.
3. Apply the formula
in solving day today
life problems.
4. Derive the formula to find nth term and sum of the first nth term of A.P.
5. Apply the formula in solving day today life problems.

Note(i): Students are able to enhance their observational and logical skill.

RSC outcome:
(i) Communication Skills
(ii) Leadership
(iii) Team work through

Project work.

| $\begin{aligned} & \text { JANUARY } \\ & 2022 \end{aligned}$ | 9. Applications of Trigonometry | 1.Define angle of Elevation and angle of Depression. <br> 2. Find Heights and Distance of simple problems( angle of elevation/depression should be only $30^{\circ}, 45^{0}$ and $60^{0}$. | Project: To make a clinometer and use it to measure the height of an object. | UNIT TEST <br> PERIODIC <br> TEST - 03 | 1.Define angle of Elevation and angle of Depression. <br> 2. Find Heights and Distance of simple problems( angle of elevation/depression should be only $30^{\circ}, 45^{\circ}$ and $60^{\circ}$. Note(i)Students are able to find Height and Distance of the problems from day today life situations. <br> (ii). RSC: Communication Skills Team Work Leadership through Project work. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { FEBRUARY } \\ & 2022 \end{aligned}$ | 10. Circles | 1 Define tangent to a circle , Point of contact <br> 2. Prove the tangent of a circle at any point of contact of a circle is perpendicular to the radius through the point of contact. <br> 3. Prove the lengths of tangents drawn from an external point to a circle are equal. <br> 4. Apply the concept of above two theorems in problem solving . |  | UNIT TEST | 1 Define tangent to a circle, Point of contact <br> 2. Prove the tangent of a circle at any point of contact of a circle is perpendicular to the radius through the point of contact. <br> 3. Prove the lengths of tangents drawn from an external point to a circle are equal. <br> 4. Apply the concept of above two theorems in problem solving . |


| $\begin{aligned} & \text { FEBRUARY } \\ & 2022 \end{aligned}$ | ratio. <br> 2. Draw tangents to a circle from a point outside it. |  | 2. Draw tangents to a circle from a point outside it. <br> Note: (i)Students are able to enhance their thinking \& creative skills. <br> (ii) RSC outcome: Communication Skills \& thinking skills with creativity. |
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वार्षिक पाठ्यक्रम - हिंदी (9)
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सत्र - 2021-22

| क्रम संख्या | पाठ का नाम | पूर्ण होने का माह | व्याकरण |
| :---: | :---: | :---: | :---: |
| 1 | दो बैलों की कथा | अप्रैल | उपसर्ग -प्रत्यय |
| 2 | कबीर -साखियाँ व पहला सबद | " | अलंकार - अनुप्रास, श्लेष , |
| 3 | मेरे संग की औरतें | " | यमक, उपमा |
| 4 | अपठित गद्यांश - पद्यांश | मई |  |
| 5 | वाख | जुलाई | समास |
| 6 | ल्हासा की ओर | " |  |
| 7 | रसखान - सवैये | " |  |
|  | पूर्व मध्यावधि परीक्षा | अगस्त |  |
| 8 | कैदी और कोकिला |  | वाक्य, संवाद लेखन |
| 9 | सांवले सपनों की याद |  | पत्र लेखन |
| 10 | नाना साहब की पुत्री देवी मैना को भस्म कर दिया गया | सितम्बर | अलंकार - रूपक , उत्प्रेक्षा, अतिश्योक्ति , मानवीकरण |
| 11 | चन्द्र गहना से लौटती बेर |  |  |
| 12 | प्रेमचंद के फटे जूते | अक्टूबर | अपठित गद्यांश - पद्यांश |
| 13 | रीढ़ की हड्डी |  |  |
|  | मध्यावधि परीक्षा |  |  |
| 14 | मेघ आए | नवम्बर | पत्र लेखन, अनुच्छेद लेखन |
| 15 | बच्चे काम पर जा रहे हैं |  | वाक्य के भेद |
| 16 | मेरे बचपन के दिन | दिसम्बर |  |
| 17 | यमराज की दिशा |  |  |
|  |  | जनवरी, फरवरी ,मार्च | पुनरावृति |
|  | वार्षिक परीक्षा |  |  |
|  |  |  |  |

## Sanskrit

सत्र - 2021-22

| $\begin{array}{\|l\|} \hline \text { वर्ष } \\ 2021-22 \end{array}$ | कक्षा दशमी | कक्षा नवमी | कक्षा अप्टमी | पाठ्य सहगामी कियाकलापः |
| :---: | :---: | :---: | :---: | :---: |
| अप्रैल मई | पाठ्य पुस्तकम्- <br> 1- शुचि पर्यावरणम् <br> 2 -गुणवती कन्या <br> व्याकरणम्- <br> प्रत्यया३- टापु, हीप, त्व, तल्। स्वर सन्धि- दीर्घ, गुण, यण, <br> वृद्धि, अयादि। <br> कृदन्त प्रत्यया३- क्वा तुमुन् <br> ल्यप् <br> शद्दरूपाणि- किम् तद्त्रिपु लिंगेपु) <br> पाठ्यपुस्तकम् <br> 3- शिशु लालनम् <br> 4- व्यायाम8 सर्वदा पथ्य8 | पाठयपुस्तकम् <br> 1- भारतीवसन्तगीतिः <br> 2- स्वर्णकाकः <br> व्याकरणम् <br> 1- शब्दरूपाणि-राम <br> (अकारान्त) <br> मुनि (इकारान्त) <br> 2-वर्णमाला-वर्ण संयोजन व <br> वियोजन <br> उच्चारण- स्थानानि <br> कृदन्त प्रत्ययाः-क्वा, तुमुनु, ल्यप् \| <br> सन्धि- दीर्घ गुण यण् <br> पर पज्चलकारेपु <br> पाठ्यपुस्तकम् <br> $\mathbf{3}$-सोमप्रभम् <br> 4-कल्पतरु | पाठ्यपुस्तकम् <br> 1 सुभापितानि <br> 2 बिलस्य वाणी न कदापि मे श्रुता <br> व्याकरणम् <br> क्वा, तुमुन, ल्यप् <br> शब्दरूप <br> राम, लता <br> धातु रूप <br> पर पंचलकारेपु <br> सन्धि, दीर्घ, गुण <br> पाठ्यपुस्तकम् <br> 3 भगवदज्जुकम् <br> 4 सदैव पुरतो निधेहि चरणम् | फलपुष्पाणां नामानि चयनम् <br> परस्पर् संख्कृतेन परिचयः । <br> प्रार्थनासभायाम् संक्कृत-वार्ता |




