CHOITHRAM SCHOOL, MANIK BAGH, INDORE
ANNUAL CURRICULUM PLAN SESSION 2020-21

CLASS: XI
SUBJECT: Mathematics

Month& Working Days	Theme/ Sub-theme	Learning Objectives		Activities &Resources	Expected Learning Outcomes	Assessment
		Subject Specific (Content Based)	**Behavioural (Application based)**			
March 02 April 13	Sets, Relations & Functions 15 days	Students will be able to learn / understand about 1. Sets & its types(finite and infinite sets, equal sets, subsets) 2. Types of intervals 3. The power set using the concepts of sub sets. 4. Venn diagrams. 5. Universal set, union and intersection of sets, difference of sets, complement of a set. 6. Cartesian products of sets 7. ordered pair 8. Image 9. Relations 10. Domain & range of Relations 11. Functions &its types 12. Domain& range of functions	Through this chapter students will attain following behavioural objectives, 1. Decision making 2. Appreciate different approaches (representation) 3. Observation	Class.Activity related to venn diagram on gender equality. PA1- To find the number of subsets of a given set and verify that if a set has n number of elements, then the total number of subsets is 2^n. PA2- To represent set theoretic operations using Venn diagrams. Q4To distinguish between a Relation and a Function	Students learned about 1. Sets & its types(finite and infinite sets, equal sets, Subsets) 2. Types of intervals 3. The power set using the concepts of sub sets. 4. Venn diagrams. 5. Types and operation on sets, 6. Cartesian products of sets(ordered pair) 7. Relations 8. Functions & its types 9. Domain ,rangeand image of Relations as well as functions. 10. Analytical thinking (though the activity1) 11.Visualization(though the activity2) 12.systematic approach (activity)	Assessment will be done on the basis of decided Rubrics.
April 08 + June 12	Trigonometry 20 days	Students will be able to learn / understand about 1. Measure of Angles (*Degree measure &Radian measure)* 2. Relation between degree and radian	Students will attain 1. Application of acquired knowledge to find distance between any to	CA-Unit circle will be drawn then students will be asked to calculate all T-ratio for different angles i.e	Students learned about 1. Measure of Angles (*Degree measure &Radian measure)* and its relation 2. Trigonometric Functions & its Sign 3. Domain and range of trigonometric	Assessment will be done on the

Date	Topic	Students will be able to learn / understand	Behavioural objectives	Activity	Students learned about	Assessment
		3. Trigonometric Functions & its Sign 4. Domain and range of trigonometric functions 5. Trigonometric Functions of Sum and Difference of Two Angles 6. Trigonometric Equations and solutions 7. Relation between sides and angle of any triangle	objects. 2. Problem solving & Critical thinking in sum angle properties 3. Analyzing a musical tone.	$\theta, 90+\theta, 180+\theta, 270+\theta$ -etc. PA3- To plot the graphs of sin x, sin $2x$, 2sin$x$, using same coordinate axes.	functions 4. Trigonometric Functions of Sum and Difference of Two Angles 5. Solution Trigonometric Equations and triangle 6. Application of trigonometric function will Develop Critical thinking and problem solving skill.	basis of decided Rubrics.
June 05 + July 05	Complex Numbers 10 days	Students will be able to learn / understand about 1. meaning and importance of Complex Number 2. Algebra of Complex Numbers, Modulus , Conjugate and multiplicative inverse of a Complex Number. 3. Representation of complex number on Argand Plane and argument (or amplitude) of a Complex Number. 4. Square root of a Complex Number	Students will attain following behavioural objectives 1. Decision making 2. Reasoning 3 . Appreciate different approaches of representation	PA4-To interpret geometrically the meaning of i = –1 and its integral powers.	Students learned about 1. Algebra ofComplexNumbers including multiplicative inverse of the non-zero complex number and Representation of complex number on argand plane. 2. argument (or amplitude) of a complex Number 3. Polar Representation of a Complex Number 4. Square root of a Complex Number 5. . Reasoning 6. Imagination	Assessment will be done on the basis of decided Rubrics.
July 06	Mathematical Induction 6 days	Students will be able to learn / understand about 1. Inductive and deductive method of proof 2. Method of proof by mathematical induction 3. Generalization of proof from 1 to n +1	Students will attain following behavioural objectives 1. Reasoning 2.Analysing	CAActivity on pile of books, effect on the fall if one book is taken	Students learned about 1. Mathematical induction to prove a result 2. Reasoning & Analysing by the activity of falling pile	
July 15	Sequence & Series 15 days	Students will be able to learn / understand about 1. Sequences and Series, 2. Arithmetic Progression (A.P.) 3. nth term and sum of n terms of A.P. 4. Geometric Progression (G.P.) 5. A.M. ,G.M.	Students will be able to 1. Identify the general term (rules/1characteristics) of a sequence which further enable them	PA5- Random pattern will be given and students will be asked to find general term.	Students learned about 1. Sequences and Series, 2. Arithmetic Progression (A.P.) 3. nth term and sum of n terms of A.P. 4. Geometric Progression (G.P.) 5. A.M.&. G.M. and the relation between them	Assessment will be done on the basis of

		6.Relationship between A.M. and G.M. 7.n^{th} term and sum of n terms of G.P. 8.Sum of infinite terms of G.P. 9.Sum to *n* terms of Special Series	to become systematic in problem solving of real life. 2. make a definite rule to be followed in particular situations/ circumstances by their previous experiences or trends set by the predecessors.		6. n^{th} term and sum of n terms/infinite terms of G.P. 7. Sum to *n* terms of Special Series systematic approach in solving problems of real life	decided Rubrics.
August 20	Straight Lines 20 days	Students will be able to learn / understand about 1. Slope of a Line 2. Conditions for parallelism and perpendicularity of lines in terms of their slopes 3. Various forms of the equation of a line 4. Angle between two lines 5. General equation of a line 6. Distance of a point from a line 7. Distance between two parallel lines.	After learning this chapter students will be able to develop 1. Presentation skill 2. Visualization 3. Give responses according to situation	Generation of equation by two point form	Students learned about 1. Slope of a Line 2. Conditions for parallelism and perpendicularity of lines in terms of their slopes 3. Forms of the equation of a line 4. Angle between two lines 5. General equation of a line 6. Distance of a point from a line 7. Distance between two parallel lines. 8. Presentation skill 9. Visualization 10. Give responses according to situation	Assessment will be done on the basis of decided Rubrics.

September 20 days	Conic sections 20 days	Students will be able to learn / understand about Equation of Circle	After learning this chapter students will be able to develop 1. Creativity	Generation of equation by distance formula	Students learned about 1. Equation of Circle	Assessment will be done on the basis of decided Rubrics.
	Conic Sections	Students will be able to learn / understand about 1. Sections of a Cone 2. Definition, Focus, Latus rectum and *directrix*of parabola 3. Equation of Parabola 4. Definition, Major axis, minor axis, Focus, Latus rectum and *directrix*of Ellipse 5. Equation of Ellipse 6. Definition, Transverse axis, Conjugate axis, Focus, Latus rectum and *directrix*of Hyperbola 7. Equation of Hyperbola	After learning this chapter students will be able to develop 1. Imagination skill 2. Creativity	PA6- To construct an ellipse when two fixed points are given.	Students learned about 1. Sections of a Cone 2. Definition, Focus, Latus rectum and *directrix*of parabola 3. Equation of Parabola 4. Definition, Major axis, minor axis, Focus, Latus rectum and *directrix*of Ellipse 5. Equation of Ellipse 6. Definition, Transverse axis, Conjugate axis, Focus, Latus rectum and *directrix*of Hyperbola 7. Equation of Hyperbola 8. Imagination skill 19. Creativity	Assessment will be done on the basis of decided Rubrics.
October 10 days + HALF YEARLY	Permutations & Combinations 10 days	Students will be able to learn / understand about 1. Fundamental Principle of Counting 2. Meaning of Factorial 3. Concept and application of Permutations 4. Concept and application of Combinations	Students will attain following skills through solving variety of problems. 1. Order 2. Imagination 3. Management 4. Reasoning	PA7- To find the number of ways in which three cards can be selected from given five cards.	Students learned about 1. Fundamental Principle of Counting 2. Meaning of Factorial 3. Concept and application of Permutations 4. Concept and application of Combinations 5. . Order 6. Imagination	Assessment will be done on the basis of decided

					7. Management 8. Reasoning	Rubrics.
November 20	Binomial Theorem 10days	Students will be able to learn / understand about 1. Pascal's triangle 2. Binomial Theorem for Positive Integral Indices 3. General Term and Middle Term(s) in the expansion of $(a + b)^n$	After learning this chapter students will be able to develop 1. Reasoning Skill	PA8-To construct a Pascal's Triangle and to write binomial expansion for a given positive integral exponent. .	Students learned about 1. Pascal's triangle 2. Binomial Theorem for Positive Integral Indices 3. General Term and Middle Term(s) in the expansion of $(a + b)^n$	Assessment will be done on the basis of decided Rubrics.
	Linear Inequations 10days	Students will be able to learn / understand about 1. Linear inequalities 2. Algebraic solutions of linear inequalities in one variable 3. Graphical representation of linear inequalities in one variable 4. Graphical solution of linear inequalities in two variables 5. Solution of system of linear inequalities in two variables	1. Systematic behaviour (in plotting the points in graph) 2. Observation 3. Problem solving	PA9- To verify that the graph of a given inequality, say 5x + 4y – 40 < 0, of the form ax + by + c < 0, a, b > 0, c < 0 represents only one of the two half planes.	Students learned about 1. Linear inequalities 2. Algebraic solutions of linear inequalities in one variable 3. Graphical solution of linear inequalities inone/ two variables 4. Solution of system of linear inequalities in two variables 5. Systematic behaviour (by plotting the points in graph) 6. Observation 7. Problem solving	Assessment will be done on the basis of decided Rubrics

December 20	Limits & Derivatives 20 days	Students will be able to learn / understand about 1. Algebra of limits 2. Limits of polynomials and rational functions 3. Limits of Trigonometric Functions 4. Limits of Logarithmic and Exponential Functions 5. Algebra of derivative of functions 6. Derivative of the functions from first principle 7. Derivatives of functions	Students will be able to develop 1. Visualization of change when other thing changes. 2. Dependency	PA10-	Students learned about 1. Algebra of limits 2. Limits of polynomials and rational functions 3. Limits of Trigonometric Functions 4. Limits of Logarithmic and Exponential Functions 5. Algebra of derivative of functions 6. Derivative of the functions from first principle 7. Derivatives of functions 8. Visualization of change 9. Dependency	. Assessment will be done on the basis of decided Rubrics.
		*Class Test*dec				
January 23	Statistics 9 days	Students will be able to learn / understand about 1. Measures of Dispersion 2. Range 3. Mean Deviation 4. Variance and Standard Deviation 5. Coefficient of variation 6. Analysis of Frequency Distributions	Students will be able to develop 1. interpretation and analyze the data 2.Effectiveness of data	--	Students learned about 1. Measures of Dispersion 2. Range 3. Mean Deviation 4. Variance and Standard Deviation 5. Coefficient of variation 6. Analysis of Frequency Distributions 7. deviation and effectiveness of data collected	Assessment on the basis of decided Rubrics.
	Probability 6 days	Students will be able to learn / understand about 1. Random experiments 2. Outcomes and sample space 3. Types of events 4. Algebra of events 5. Probability of an event	After learning this chapter students will be able to develop 1. Reasoning Skill	PA10-To write the sample space, when a coin is tossed once, two times, three times, four times.	Students learned about 1. Random experiments 2. Outcomes and sample space 3. Types of events 4. Algebra of events 5. Probability of an event 6. Reasoning Skill	Assessment will be done on the basis of decided

					Rubrics.
	Introduction to 3-D 8 days	**Students will be able to learn / understand about** **1. Coordinate Axes and Coordinate Planes in Three Dimensional Space** **2. Coordinates of a Point in Space** **3. Distance between Two Points** **4. Section Formula**	**After learning this chapter students will be able to develop** **1. Visualizationskill In 3 dimension**	**Visual demonstration of octant**	**Students learned about** **1. Coordinate Axes and Coordinate Planes in Three Dimensional Space** **2. Coordinates of a Point in Space** **3. Distance between Two Points** **4. Section Formula** **5. Visualizationskill**	**Assessment will be done on the basis of decided Rubrics.**

FINAL EXAMS FEBRUARY