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

CLASS: XI SUBJECT: Mathematics (Applied Mathematics)

Month	Theme/ Sub-	Learning Objective	Activities	Activities	Expected Learning Outcomes	Assess
& Worlsi	theme	Subject Specific	Behavioural	&Resources		ment
WOLKI NG		(Content Based)	(Application based)			
Days						
_	Numbers,	Students will be able to:	They will be able to:	Video will be	Students would be able to:	Questi
	Quantificati	1) Understand about prime numbers	1. Calculate 'numbers	shown to	1) Understand about prime numbers	on will
May 9	on and	2) Learn how to encrypt data using prime	having power' without	students	2) Learn how to encrypt data using prime numbers	be
Days	Numerical	numbers	using calculator by using		3) Understand the concept of binary numbers	given
+	Applications	3) Understand the concept of binary numbers	concept of logarithm and		a) How it is different from Decimal Number	and
June		a) How it is different from Decimal Number	anti – logarithm		System	assess
11		System	2. Find averages (own		b) Conversion of decimal number to binary	ment
days		b) Conversion of decimal number to binary	percentage, run rate of		number and vice – versa	will be
		number and vice – versa	cricket match etc)		c) Conversion of fractional numbers from	on
		c) Conversion of fractional numbers from	3. Find 'specific day' with		decimal number to binary and vice – versa	decide
(20)		decimal number to binary and vice – versa	the help of given date		d) Binary addition	d
		d) Binary addition	without using calendar		e) Binary subtraction	rubrics
		e) Binary subtraction	4. Calculate work, time		4) Understand about Indices, Logarithms and Anti –	
		4) Understand about Indices, Logarithms and	and distance by using		logarithms	
		Anti – logarithms	formulas which helps in		a) Laws and properties of logarithms	
		a) Laws and properties of logarithms	preventing them by being		b) Simple applications of logarithm and	
		b) Simple applications of logarithm and	cheated		antilogarithm	
		antilogarithm	5. Calculate area of wall,		5) Solve numerical problems on:	
		5) Solve numerical problems on:	floor, cricket field, etc		a) Averages	
		a) Averages	with the help of formulas		b) Calendar	
		b) Calendar			c) Clock	
		c) Clock			d) Work, Time and Distance	
		d) Work, Time and Distance			e) Mensuration	

June 6	Algebra	e) Mensuration f) Seating arrangement Students will be able to understand following	1. As a 'natural ability of	Students will	 f) Seating arrangement 6). Calculate 'numbers having power' without using calculator by using concept of logarithm and anti – logarithm 7). Find averages (own percentage, run rate of cricket match etc) 8). Find 'specific day' with the help of given date without using calendar 9). Calculate work, time and distance by using formulas which helps in preventing them by being cheated 10. Calculate area of wall, floor, cricket field, etc with the help of formulas 1) Set Theory 	Ouesti
days		concepts:	abstraction', students often	be asked to	a) Types of Sets	on will
+ July 26		1) Set Theory	speak of collection of	explain	b) venn diagram's	be
July 20 Dave		b) Venn diagram's	"the Detroit Lions" "the	cartesian	d) Problem solving using Venn diagram	and
Days		c) De Morgan's law	Solar system"	products	2) Relation	anu assess
35		d) Problem solving using Venn diagram	2. School bags of children	studied in X	a) Ordered pair	ment
-		2) Relation	are also related with Set	Set A and B	b) Cartesian Product	will be
		a) Ordered pair	theory. There are usually	will be listed	c) Introduction to Relation	on
		b) Cartesian Product	divisions in the school	on the board A	d) Types of relations	decide
		c) Introduction to Relation	bags, where the sets of	- red blue land	3) Sequence and Series	d
		d) Types of relations	notebooks and textbooks	$\mathbf{B} = \int \mathbf{b} \mathbf{c} \mathbf{s}$	a) Introduction to Sequence and Ser	rubrics
		3) Sequence and Series	are kept separately	$\underline{\mathbf{D}} = \{\mathbf{U}, \mathbf{U}, \mathbf{S}\},$	b) Arithmetic progression	
		a) Introduction to Sequence and Series b) Arithmetic progression	o. Shopping mail is other		d) Relation between AM and CM	
		c) Geometric Progression	there are separate portions	s represent a	4) Permutation and Combination	
		d) Relation between AM and GM	for each kind of things.	particular bag,	a) Basic concept of Permutation	
		4) Permutation and Combination	For instances, clothing	coat and Shirt	b) Circular permutation	
		a) Basic concept of Permutation	shops are on another floor	then tollowing	c) Permutation with restrictions	
		b) Circular permutation	whereas the food court is	question	d) Basic concept of Combination	
		c) Permutation with restrictions	at another part of the mall.	will be floated	e) Combinations with standard results	
		d) Basic concept of Combination	4. Combinations of	in the class.	2)As a 'natural ability of abstraction', students often	

e) Combinations with standard results	password of their mobile phones By understanding the concept and solving variety of problems, students will attain following behavioral objectives: They will be able to: 1. Use concept of Set theory in Data Structure and Topology (Subject in Computers) 2. Find number of students who've opted for specific sport, club activity 3. Calculate specific number of item (like TV, Car, Freeze etc) sold from total sold items 4. Calculate total amount to be paid to cab driver after completion of journey 5. Calculate total number of seating arrangements in van/bus/class 6. Do mapping with particular people with the help of any relation between them	1)How many pairs of coloured objects can be made from these two sets? 2)(red, b), (red, c), (red, s), (blue, b), (blue, c), (blue, s). {6 distinct} 3)Then definition of relation will be given two non- empty sets p and q.	 speak of collection of things as a single entity, "the Detroit Lions", "the Solar system" 3). School bags of children are also related with Set theory. There are usually divisions in the school bags, where the sets of notebooks and textbooks are kept separately 4). Shopping mall is other example of Set theory, as there are separate portions for each kind of things. For instances, clothing shops are on another floor whereas the food court is at another part of the mall. 5). Combinations of password of their mobile phonesBy understanding the concept and solving variety of problems, students will attain following behavioral objectives: They will be able to: Use concept of Set theory in Data Structure and Topology (Subject in Computers) Find number of students who've opted for specific sport, club activity Calculate total amount to be paid to cab driver after completion of journey Calculate total number of seating arrangements in van/bus/class De additional activity point and structure problems with particular people with the help of any relation between them 	
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August	Coordinate	To enable the students to understand and apply:	Students will be able to	Students will be	Students would be able	assess
20	Geometry	1. Concept of Straight Line and its	develop	asked to derive	1 Concept of Straight Line and its	ment
days	-	2. Graphical representation in two-dimensional	1)Imagination skill	equation of circle	2. Graphical representation in two dimensional	will be
-		Plane	2)Creativity	by coordinate of	2. Oraphical representation in two-dimensional	on
20		3. Concept of Circles	3) Appreciate different	a fixed point and	2 Concept of Circles	decide
		4. Graphical representation of Circles in two-	approach for plane	a general point	4. Graphical representation of Circles in two	d
		dimensional Plane	geometry		4. Oraphical representation of Circles in two-	rubrics
		5. Concept of Parabola	While studying various		5 Concept of Derohole	
		6. Graphical representation of Parabola in two-	structures		6 Graphical representation of Parabola in two	
		dimensional plane			dimensional plana	
					7 develop Imagination skill & Creativity	
					7. develop intagination skin & Creativity 8. Appreciate different approach for plane	
					8. Appreciate uniferent approach for plane	
Sonto	Mathamatia	Students will be able to understand following	They will be able to:	DDT will be	Students would be able to understand concent of	Ouarti
mbor	al and	concents:	1) Form of 'New	chown to	1) Statements	Questi on will
	ai anu Logicol	1) Statements	statements from old	shown to	a) Now statements from old	bo
10 dova	Dogoning	1) Statements a) Now statements from old	statements'	students	a) New Statements from of a statement	De given
uays	Keasoning	a) New statements from of a statement	2) Form 'Compound		a) Compound Statement	given
10		a) Compound Statement	2).Form Compound		2) Special word phrases	
10		2) Special word phrases	2) Lise words like "AND"		2) Special word pillases	assess
		2) Special word philases	s). Use words like AND		a) The word AND b) The word OK 2) Quantifiers	ment will be
		a) The word AND b) The word OK 2) Quantificate	and OK in appropriate		4) Implications	will be
		3) Qualifiers	A) Drove things by using		4) Implications 5) Contro positive and converse	110 abiach
		4) Implications 5) Contro positive and converse	4).Prove things by using		6) Validating statements	decide
		5) Contra positive and converse	5) Code and Decode		7) Dy contradiction	a muhmiaa
		7) Pu contradiction	5).Code and Decode		() By contradiction	rubrics
		7) By contradiction 8) Logical reasoning	6) Poloto themselves with		a) Coding Decodingh) Odd man out	
		a) Coding Decoding	their own family members		a) Plood relationd) Sullagism	
		a) Coding - Decoding	(or for away relations)		C) Blood relational Synogism	
		b) Odd man out	(or lar away relations)		9)Form New statements from old statements	
		d) Sulla sigm	using concept of Blood		10)Form Compound statements	
		d) Synogism	relations		11) Use words like AND and OK in appropriate	
					place/statements	
					12) Code and Decode masses as (2007-14)	
					15)Code and Decode messages/puzzles	
					14)Relate themselves with their own family members	

					(or far away relations) using concept of Blood relations	
Septe mber 14 days + Octobe r 16 days 30	Calculus	To enable the students to understand and apply: 1.Introduction of functions 2. Domain and Range of a function 3.Types of functions (Polynomial function; Rational function; Composite function; Logarithm function; Exponential function; Modulus function; Greatest Integer function, Signum function) 4. Graphical representation of functions 5. Concept of limits and continuity of a function 6. Instantaneous rates of change 7.Differentiation as a process of finding derivative 8.Derivatives of algebraic functions using Chain rule 9.Tangent line and equations of tangents	students will be able to develop 1)Visualization of functions 2)Approach for solving daily life problems	Differentiation concept will be explained graphically	Students would be able understand1. Introduction of functions2. Domain and Range of a function3. Types of functions (Polynomial function; Rational function; Composite function; Logarithm function; Exponential function; Modulus function; Greatest Integer function, Signum function)4.Graphical representation of functions 5.Concept of limits and continuity of a function 6. Instantaneous rates of change 7.Differentiation as a process of finding derivative 8.Derivatives of algebraic functions using Chain rule 9.Tangent line and equations of tangents 10. Visualization of functions 11. Approach for solving daily life problems	Questi on will be given and assess ment will be on decide d rubrics
Octobe r 6 days + Novem ber 14 days 20	Probability	 Students will be able to understand following concepts: 1) Random experiments 2) Sample space 3) Mutually exclusive events 4) Conditional probabilities: Properties of conditional probabilities 5) Multiplication theorem on probability 6) Bayes' theorem 	students will observe and incorporate the concept studied with the following situations as: 1)Concept of Probability is use to predict about the weather 2)Athletes and coaches use probability to determine the best sports strategies for games and competitions. 3)Probability plays an important role in analyzing insurance policies to	PPT will be shown to students	Students would be able to understand concept of:Students will be able to understand following concepts:1) Random experiments2) Sample space3) Mutually exclusive events4) Conditional probabilities:Properties of conditional probabilities5) Multiplication theorem on probability6) Bayes' theorem7)Concept of Probability is use to predictabout the weather8)Athletes and coaches use probability to determine the best sports strategies for games and competitions.9)Probability plays an important role in	Questi on will be given and assess ment will be on decide d rubrics

			determine which plans are best for you or your family and what deductible amounts you need 4)Use of probability while playing board, card or video games that involve luck or chance 5)In Sales forecasting		analyzinginsurance policies to determine which plans are best for you or your family and what deductible amounts you need 10)Use of probability while playing board, card or video games that involve luck or chance 11)In Sales forecasting	
Novem ber 6 days + Decem ber 20 days 25	Descriptive Statistics	To enable the students to understand and apply: 1)Types of data (raw data, univariate data, bivariate and multi-variate data) 2)Data on various scales (nominal, ordinal, interval and ratio scale) 3)Data representation and visualization 4)Data interpretation (central tendency, dispersion, deviation, variance, skewness and kurtosis) 5)Percentile rank and quartile rank 6)Correlation (Pearson and Spearman method of correlation) 7)Applications of descriptive statistics using real time data	After learning this chapter students will be able to develop 1) understanding about collection of information 2)Checking authenticity of information 3)Developing tool to verify result for any data	They will be asked to calculate central tendencies from a set of data given to them.	Students would be able to understand concept of:1)Types of data (raw data, univariate data, bivariateand multi-variate data)2)Data on various scales (nominal, ordinal, intervaland ratio scale)3)Data representation and visualization4)Data interpretation (central tendency, dispersion,deviation, variance,skewness and kurtosis)5)Percentile rank and quartile rank6)Correlation (Pearson and Spearman method ofcorrelation)7)Applications of descriptive statistics using realtime data8) understanding about collection of information9)Checking authenticity of information10)Developing tool to verify result for any data	Questi on will be given and assess ment will be on decide d rubrics

Januar	Basics of	Students will be able to:	Students will attain	Video (based on	1) Understand the concept of interest and interest rate	Questi
y 23	Financial	1) Understand the concept of interest and interest	They will be able to:	real life	a) Accumulation with simple and compound interest	on will
Days	Mathematics	rate	1. Calculate amount they	situations) will be	b) Simple and compound interest rates with	be
+		a) Accumulation with simple and compound	will receive on depositing	shown to the	equivalency	given
Febru		interest	specific principal amount,	students to create	c) Effective rate of interest	and
ary		b) Simple and compound interest rates with	at specific rate of interest	their interest in	2) Understand the concept of present value, net	assess
5 days		equivalency	after particular interval of	topic	present value and future value	ment
		c) Effective rate of interest	time against their		a) Annuities, calculating value of regular annuity	will be
		2) Understand the concept of presentvalue, net	savings/fixed deposit		b) Simple applications of regular annuities	on
		present value and future value	2. Compare different		3) Understand concept of tax, calculation of tax and	decide
		a) Annuities, calculating value of regular annuity	saving/fixed deposit		simple applications of tax calculation in Goods	d
		b) Simple applications of regular annuities	schemes of bank		andService tax, Income Tax	rubrics
		3) Understand concept of tax, calculation of tax	3. Compare different		4) Calculate bills, tariff rates, fixed charge,	
		and simple applications of tax	insurance policies of		surcharge, service charge	
		calculation in Goods and Service tax, Income Tax	different companies		5) Calculate and interpret electricity bill, water	
		4) Calculate bills, tariff rates, fixed charge,	4. Calculate their own		supply bill and othersupply bills	
		surcharge, service charge	electricity bill, water bill		6) Compare interest rates on various types of savings	
		5) Calculate and interpret electricity bill, water	etc which helps in		7) Calculate income tax	
		supply bill and other supply bills	preventing them by being		8) Understand concept of various types of bills and	
		6) Compare interest rates on various types of	cheated		surcharges (like Electricity bills, water bill etc)	
		savings	5. Calculate income tax		9. Calculate amount they will receive on depositing	
		7) Calculate income tax			specific principal amount, at specific rate of interest	
		8) Understand concept of various types of bills			after particular interval of time against their	
		and surcharges (like Electricity bills, water bill			savings/fixed deposit	
		etc)			10. Compare different saving/fixed deposit schemes	
					of bank	
					11. Compare different insurance policies of different	
					companies	
					12 Calculate their own electricity bill, water bill etc	
					which helps in preventing them by being cheated	
					13. Find and pay correct amount of income tax,	
					which helps is overall progress of country	