

MATHEMATICS (2020-21), CLASS- XI
MONTH: APRIL

Content/Topic	1 st Week	2 nd Week	3 rd Week	4 th Week	5 th Week
CHAPTER 1: SETS CHAPTER 2 : RELATION AND FUNCTIONS	ORIENTATIO N		➤ Sets and their representations Empty set., Finite and Infinite sets	➤ Equal sets ➤ Subsets of a set ➤ Power set, Universal set &Venn diagrams ➤ Union and Intersection of sets ➤ Difference of sets. Complement of a set.	➤ Properties of Complement Ordered pairs, Cartesian product of sets ➤ Concept of Relation/function, domain, co- domain and range of a relation/function ➤ Various types of functions Sum, difference, product and quotients of Functions.
Learning Objective	<ul style="list-style-type: none"> ➤ To learn about sets & their representation ➤ To understand different types of sets ➤ To understand relation between elements of 2sets ➤ To understand functions & its range, domain 				
Learning Outcome	<ul style="list-style-type: none"> ➤ Students will learn sets & their representation ➤ Students will understand different types of sets ➤ Students will learn about relation between element of 2sets ➤ Students will understand function, its domain &range 				
Assessment/ Activity	<ul style="list-style-type: none"> ➤ Class and Home Assignment ➤ By Detailed Questioning from the Students in Class room Teaching 				
Teaching Aids /Resources	<ul style="list-style-type: none"> ➤ NCERT (Text-Book), Smart Class module 				

MONTH: MAY

Content/Topic	1 st Week	2 nd Week	3 rd Week	4 th Week	5 th week
CHAPTER 3: TRIGONOMETRY	<ul style="list-style-type: none"> ➤ Domain & Range of various Functions 	<ul style="list-style-type: none"> ➤ Positive and negative angles. ➤ Measuring angles in radians and in degrees and conversion from one measure to another Signs of trigonometric functions 	<ul style="list-style-type: none"> ➤ Values of Different Trigonometric functions for various angles ➤ Domain, range & Graph of trigonometric functions 	<ul style="list-style-type: none"> ➤ Expressing $\sin(x \pm y)$ and $\cos(x \pm y)$ in terms of $\sin x$, $\sin y$, $\cos x$ & $\cos y$ ➤ Deducing the identities ➤ General solution of trigonometric equations 	<ul style="list-style-type: none"> ➤ Proof and simple applications of sine and cosine formulae
Learning Objective	<ul style="list-style-type: none"> ➤ To understand functions & its range, domain ➤ To learn about the different units of measurement of an angle ➤ To understand signs of trigonometric functions ➤ To solve trigonometric ratio of compound angles & trigonometric equations 				
Learning Outcome	<ul style="list-style-type: none"> ➤ Students would learn different units of an angles ➤ Students will understand the signs of trigonometric functions ➤ Students will learn how to solve trigonometric equations 				
Assessment/ Activity	<ul style="list-style-type: none"> ➤ Class and Home Assignment ➤ By Detailed Questioning from the Students in Class room Teaching 				
Teaching Aids /Resources	<ul style="list-style-type: none"> ➤ NCERT (Text-Book), Smart Class module 				

MONTH: JULY

Content/Topic	1st Week	2nd Week	3rd Week	4th week	-5th week
CHAPTER 6 :LINEAR INEQUALITIES CHAPTER 7 : PERMUTATION & COMBINATIONS	<ul style="list-style-type: none"> ➤ Concept of inequality ➤ Algebraic solutions of linear equalities in one variable and their graphical representation 	<ul style="list-style-type: none"> ➤ Solution of linear inequalities in two variables graphically 	<ul style="list-style-type: none"> ➤ Applications of Linear Inequalities ➤ Factorial Notation ➤ Fundamental principle of counting 	<ul style="list-style-type: none"> ➤ Continued...(Fundamental principle of counting) ➤ Permutations when all the objects are distinct. 	<ul style="list-style-type: none"> ➤ Permutations when the objects are not distinct ➤ Combinations and its properties ➤ Problems of permutations and combinations together
Learning Objectives	<ul style="list-style-type: none"> ➤ To find the solution of linear inequality algebraically and graphically ➤ To understand and apply the concept of P & C in daily life 				
Learning Outcome	<ul style="list-style-type: none"> ➤ Students would be able to find the solution of linear inequality algebraically and graphically ➤ Students would learn how to apply the concept of P & C in daily life. 				
Assessment/ Activity	<ul style="list-style-type: none"> ➤ Class and Home Assignment ➤ By Detailed Questioning from the Students in Class room Teaching ➤ Activity from NCERT Math Lab manual 				
Teaching Aids /Resources	<ul style="list-style-type: none"> ➤ NCERT (Text-Book), Smart Class module 				

MONTH: AUGUST

Content/Topic	1 st Week	2 nd Week	3 rd Week	4 th Week	5 th Week
CHAPTER 8 : BINOMIAL THEOREM CHAPTER 9: SEQUENCE & SERIES	Holiday	PT –I (XI) ➤ Introduc tion of Binomial Theorem	PT –I(XI) ➤ Binomial theorem for positive integer n	➤ General Term, Middle term of binomial expansion Applications of binomial expansion Concept of Arithmetic Progression, Arithmetic Mean(A.M.)	➤ Geometric mean (G.M.), Relation between A.M. and G.M. Sum to n - terms of the special series Geometric Progression (G.P.), General term of a G.P., Sum of n terms of a G.P ➤ Infinite G.P. and its sum

MONTH: SEPTEMBER

Learning Objectives	<ul style="list-style-type: none"> ➤ To apply binomial theorem in solving algebraic equations ➤ To understand arithmetic & geometric progression and their application
Learning Outcome	<ul style="list-style-type: none"> ➤ Students would learn to apply binomial theorem in solving algebraic equations ➤ Students would be able to understand arithmetic & geometric progression and their application
Assessment/ Activity	<ul style="list-style-type: none"> ➤ Class and Home Assignment ➤ By Detailed Questioning from the Students in Class room Teaching ➤ Activity from NCERT Maths Lab manual
Teaching Aids /Resources	<ul style="list-style-type: none"> ➤ NCERT (Text-Book), Smart Class module

Content/Topic	1 st Week	2 nd Week	3 rd Week	4 th Week	5 th week
REVISION	➤ Revision for Term End Exam -I	➤ Term End Exam - I	➤ Term End Exam - I	➤ Term End Exam - I	➤ Discussion of Q paper Term 1
Learning Objectives					
Learning Outcome					
Assessment/ Activity	➤ Paper pen test				
Teaching Aids /Resources	➤ NCERT (Text-Book)				

MONTH: OCTOBER

Content/Topic	1 st Week	2 nd Week	3 rd Week	4 th Week	5 th Week
CHAPTER 10: STRAIGHT LINE	➤ Slope of a line	➤ Condition for parallelism and perpendicularity of lines in terms of their slopes ➤ Co-linearity of 3 points Angle between two lines	➤ Various forms of the equation of a line ➤ Reduction of $Ax + By + C = 0$ into	➤ Slope intercept form ➤ Intercept form	➤ Normal Form ➤ Distance of a point from a line Distance between two parallel lines
Learning Objectives	<ul style="list-style-type: none"> ➤ To understand the concept of slope ➤ To learn different forms of a line & its application ➤ To convert/reduce one form of line into other 				
Learning Outcome	<ul style="list-style-type: none"> ➤ Students would be able to understand the concept of slope ➤ Students would be able to learn different forms of a line & its application ➤ Students will be able to convert/reduce one form of line into other 				
Assessment/ Activity	<ul style="list-style-type: none"> ➤ Class and Home Assignment ➤ By Detailed Questioning from the Students in Class room Teaching ➤ Activity from NCERT Maths Lab manual 				
Teaching Aids /Resources	➤ NCERT (Text-Book), Smart Class module of Straight-line				

MONTH: NOVEMBER

Content/Topic	1 st Week	2 nd Week	3 rd Week	4 th Week	5 th Week
CHAPTER 5: COMPLEX NUMBERS CHAPTER 11: CONIC SECTIONS CHAPTER12: INTRODUCTION TO 3-D GEOMETRY	<ul style="list-style-type: none"> ➤ Need for complex number ➤ Algebraic properties of complex numbers 	<ul style="list-style-type: none"> ➤ Argand plane and polar form of complex numbers ➤ Solution of Quadratic equations in the complex number system 	<ul style="list-style-type: none"> ➤ Different sections of a cone ➤ Standard equations and simple properties of Circle, Parabola, ellipse 	<ul style="list-style-type: none"> ➤ Concept of Hyperbola along with its properties ➤ Concept of Octants, Coordinates of a point in space ➤ Distance between two points ➤ Section Formula ➤ Centroid of a triangle 	Holiday
Learning Objectives	<ul style="list-style-type: none"> ➤ To understand imaginary numbers ➤ How to apply different properties of complex numbers ➤ To Understand the meaning of conic section ➤ To differentiate between circle, parabola, ellipse, & hyperbola ➤ To understand the concept of three dimensional geometry and its properties. 				
Learning Outcome	<ul style="list-style-type: none"> ➤ Students would be able to understand complex numbers & would apply properties. ➤ Students will understand function, its domain & range ➤ Students would be able to understand the meaning of conic section ➤ Students would be able to differentiate between circle, parabola, ellipse, hyperbola. ➤ Students would be able to understand the concept of three dimensional geometry and its properties. 				
Assessment/ Activity	<ul style="list-style-type: none"> ➤ Class and Home Assignment ➤ By Detailed Questioning from the Students in Class room Teaching ➤ Activity from NCERT Maths Lab manual 				
Teaching Aids /Resources	<ul style="list-style-type: none"> ➤ NCERT (Text-Book), Smart Class module 				

MONTH: DECEMBER

Content/Topic	1 st Week	2 nd Week	3 rd Week	4 th Week	5 th Week
CHAPTER 13 : LIMITS & DERIVATIVES	<ul style="list-style-type: none"> ➤ Intuitive idea of limit. ➤ Concept of limit of a function ➤ Left hand limit ➤ Right hand limit ➤ Limits of polynomials Limits of rational function, trig. Function, exponential function, logarithmic function 	PT-II (XI) Concept of derivative <ul style="list-style-type: none"> ➤ Derivative of polynomial function using first principle 	PT-II (XI) <ul style="list-style-type: none"> ➤ Derivative of Trig. Function, exponential function, logarithmic function using first principle 	PT-II (XI) <ul style="list-style-type: none"> ➤ Derivative of sum, difference, product, quotient of two functions ➤ Chain Rule 	<ul style="list-style-type: none"> ➤ Problems Requires the use of all Rule (Product, Quotient and Chain Rule)
Learning Objectives	<ul style="list-style-type: none"> ➤ To understand the concept of limits ➤ To critically analyze the notion of limits & solve various limits ➤ to apply their knowledge for finding the derivative of functions 				
Learning Outcome	<ul style="list-style-type: none"> ➤ Students would be able to critically analyze the notion of limits & solve various limits ➤ Students would be able to apply their understanding in the application of calculus. 				
Assessment/ Activity	<ul style="list-style-type: none"> ➤ Class and Home Assignment ➤ By Detailed Questioning from the Students in Class room Teaching ➤ Activity from NCERT Maths Lab manual 				
Teaching Aids /Resources	<ul style="list-style-type: none"> ➤ NCERT (Text-Book), Smart Class module 				

MONTH: JANUARY

Content/Topic	1 st Week	2 nd Week	3 rd Week	4 th Week	5 th Week
CHAPTER 15 : STATISTICS CHAPTER 16: PROBABILITY	WINTER BREAK	WINTER BREAK	Meaning of Range Mean deviation about (a) Mean (b) Median	➤ Variance ➤ Standard Deviation ➤ Coefficient of Variation ➤ Application of Statistics	➤ Random Experiment ➤ Outcomes and Sample Space ➤ Types of events ➤ Mutually Exclusive & Exhaustive ➤ Axiomatic approach to probability ➤ Probability of various events under different conditions
Learning Objective	<ul style="list-style-type: none"> ➤ To analyze and apply measure of dispersion ➤ To find the probability of various events 				
Learning Outcome	<ul style="list-style-type: none"> ➤ Students would critically analyze and apply their knowledge of measure of dispersion ➤ Students would be able to find the probability of various events 				
Assessment/ Activity	<ul style="list-style-type: none"> ➤ Class and Home Assignment ➤ By Detailed Questioning from the Students in Class room Teaching 				
Teaching Aids /Resources	➤ NCERT (Text-Book), Smart Class module				

MONTH: FEBRUARY

Content/Topic	1 st week	2 nd week	3 rd Week	4 th Week	
CHAPTER 4 : PRINCIPLE OF MATHEMATICAL INDUCTION CHAPTER 14 : MATHEMATIC AL REASONING	<ul style="list-style-type: none"> ➤ Concept of Mathematical Induction ➤ Problems based on P.M.I. ➤ Mathematical statements ➤ Negative statement ➤ Compound/Component Statement ➤ Inclusive and exclusive “or” ➤ Contra positive and converse 	➤ Term End – II Exam	➤ Term End – II Exam	➤ Term End-II Exam	
Learning Objective	<ul style="list-style-type: none"> ➤ To understand Induction method ➤ To differentiate between mathematical statement and a statement ➤ To understand the concept of concept of compound, contra positive statements 				
Learning Outcome	<ul style="list-style-type: none"> ➤ Students would be able to apply induction method ➤ Students would be able to differentiate between mathematical statement and a statement ➤ Students would be able to understand the concept of compound, contra positive statements 				

Assessment/ Activity	<ul style="list-style-type: none"> ➤ Class and Home Assignment ➤ By Detailed Questioning from the Students in Class room Teaching 	
Teaching Aids /Resources	<ul style="list-style-type: none"> ➤ NCERT (Text-Book), Smart Class module 	

