Syllabus
Class-11th
Subject:Mathematics

मास	पुस्तक का नाम	विषय–वस्तु	शिक्षण के पीरियड	दोहराई के पीरियड
अप्रैल	Math Book	1. Sets 2. Relation and Functions	19	3
मई	do	6. Linear Inequalities	20	3
जून		Summer Vacations		
जुलाई	do	3. Trigonometrical Function	19	3
अगस्त	do	7. Permutation and Combination	19	3
सितम्बर	do	5. Complex Number and quadratic equations	5	10
अक्तूबर	do	9. Sequence and Series 10. Straight Lines	17	3
नवम्बर	do	11. Conic Section 12. Introduction to Three Dimensional Geometry	14	3
दिसम्बर	do	13. Limits and derivatives 16. Probability	15	3
जनवरी	do	15. Statistics	8	3
फरवरी		Revision		
मार्च		Examination		

Detailed Syllabus

Chapter No.1
SETS:-

Introduction, Sets and their Representations, The Empty Set, Finite and Infinite Sets, Equal Sets, Subsets, Power Set, Universal Set, Venn Diagrams, Operations on Sets, Union of sets, Intersection of sets, Difference of sets, Complement of a sets, Practical problems on Union and Intersection of two sets.

Chapter No.2
Relations and Functions:-

Introduction, Cartesian Products of sets, Relations Functions, some functions & graphs. Algebra of real function.

Chapter No.3
Trigonometric Function:-

Introduction, Angles, Degree measure, Radian measure, Relation between radian and real numbers, Relation between degree and radian, Trigonometric Functions Signs of Trigonometric Function, Domain and range of Trigonometric Functions.

Trigonometric Function of Sum and Difference of two Angles, Trigonometric Equations.

Chapter No.4
Principle of Mathematical Induction:-

Introduction, Motivation, The Principle of Mathematical Induction.

Chapter No.5
Complex Numbers and Quadratic Equations:-

Introduction, Complex numbers, Algebra of Complex numbers, Addition, Difference, multiplication, division of two Complex numbers, Power of i (iota), The square roots of a negative real number, Identities. The modulus and the conjugate of a complex number, Argand Plane and Polar representation, Quadratic Equations.

Chapter No.6

Linear Inequalities:-

Introduction, Inequalities, Algebric solution of linear Inequalities in one variable and their graphical. Representation, Graphical solution of Linear Inequalities in two variables. Solution of system of Linear Inequalities in two variables.

Chapter No.7

Permutations and Combinations:-

Introduction, Fundamental principle of counting, permutations. Permutations when all the objects are distinct. Factorial notation, Derivation of the formula ^nP_r, Permutations when all the objects are not distinct objects, Combinations.

Chapter No.8

Binomial Theorm:-

Introduction, Binomial Theorm for Positive Integral Indices, General and Middle Terms.

Chapter No.9

Sequences and Series:-

Introduction, Sequences, Series, Arithmetic Progression (A.P.), Sum of n-terms of A.P., Arithmetic Mean, Geometrical Progression (G.P.), General term of G.P., Sum of n terms of a G.P., Geometric Mean (G.M.), Relationship between A.M. and G.M.

Sum of n terms of special series.

Chapter No.10

Straight Lines:-

Introduction, slope of a line, slope of a line when co-ordinater of any two points on the line are given, condition for parallelism and perpendicularity of lines in terms of their slopes, Angles between two lines, collinearity of three points, various Forms of the Equation of a

line, Horizontal and Vertical lines, Point slope form, Two-point form, slope intercept form, intercept form, Normal form. General Equation of a line, Different form of

$$Ax+bx+c=0$$

Distance of a Point From a Line, Distance between two Parallel lines.

Chapter No.11

Conic Sections:-

Introduction, sections of a Cone, Degenerated Conic sections, Circle, Parabola, Standard equation of Parabola, Lotus rectum, Ellipse, Relationship between semi-major anis semi-minor anis and the distance of focus from the centre of ellipse, special cases of an ellipse, Eccentricity, Standard equations of and ellipse, Lotus rectum, Hyperbola, Eccentricity, Standard equation of Hyperbola Lotus rectum.

Chapter No.12

Introduction to three Dimensional Geometry:-

Introduction, co-ordinate Anes and co-ordinate Planes in three Dimensional space, co-ordinates of a points in space, Distance between two Points, Section Formula.

Chapter No.13

Limits and Derivatives:-

Introduction, Intuitive Idea of Derivatives, Limits Algebra of Limits, Limits of polynomials and rational function, Limits of Trigonometric functions. Derivatives, Algebra of derivative of functions, Derivative of Polynomials and Trigonometric functions.

Chapter No.14

Mathematical Reasoning:-

Introduction, Statements, New Statement from old, Negation of statements Compound statements, Special word/phrases, Quantifiers, Implications, Contra positive and Converse, Validating statements.

Chapter No.15
Statistics:-

Introduction, measures of Dispersion, Range, Mean Deriation, mean deriation for ungrouped data, grouped data, limitations of mean deviation, Variance and standard deviation, standard deviation of a discrete frequency distribution, Standard deviation of a continuous frequency distribution, Shortcut method to find variance and standard deviation, Analysis of Frequency Distributions, Comparision of two frequency distributions with same mean.

Chapter No.16
Probability:-

Introduction, Random Experiments, outcomes and sample space. Event, occurrence of an event, Types of events, Algebra of events, complementary event, The event A or B, The Event A and B, The Event A but not B, Mutually Exclusive events, Exhaustive events.

Axiomatic Approach to Probability. Probability of an events, Probabilities of equally likely outcomes, Probability of the event A or B, Probability of event not A.

Note: deleted syllabus point wise is as under:

1   Unit-Ist Sets and Function

   Ch-1 Sets   1.10.3 Difference of sets

                                1.11 Complements of a sets

   Ch-2 Relation and function 2.4 Functions

   Ch-3 Trignometric functions 3.5 Trignometric equations of type

                                $\sin x = \sin y$, $\cos x = \cos y$,

                                $\tan x = \tan y$

2   Unit-2 Algebra

   Ch.-4 Principle of mathematical induction (Full Chapter)

   Ch-5 complex number and quadratic equations

5.5.1 polar represention of complex number

Ch- 7 Permutation and combination

7.3.3 Derivation of the formula for npr and ncr

Ch-8 Binomial Theorem (Full Chapter)

Ch- 9 Sequence and series   9.7 sum to n-terms of special series $\Sigma n, \Sigma n2, \Sigma n3,$

3   Unit-3 Coordinate Geometry

Ch-10 Straight line   Miscelloneous examples, Equations of family of lines passing through the point of intersection of two lines.

Ch-11 Conic Sections   11.6 Hyperbola

4   Unit-5 Mathematical reasoning

Ch-14 Mathematical reasoning (Full Chapter)

5   Unit-6 Statistics and probability

Ch-15 Statistics   15.6 Analysis of frequency distribution

Ch-16 Probability   16.4 Axiomatic approach of probability