

# Contents

## Class 11

<b>1. Sets</b>	<b>1-6</b>
<i>Topic-1</i> Sets, Types of Sets, Subsets and Supersets, Operations on Sets, Complement of a Sets	
<i>Topic-2</i> De-Morgan's Law and Venn Diagrams	
<b>2. Relations and Functions</b>	<b>7-16</b>
<i>Topic-1</i> Domain, Co-domain and Range of Relations and Functions	
<i>Topic-2</i> Some Standard Functions and Algebraic Operations on Real Functions	
<b>3. Trigonometric Functions</b>	<b>17-72</b>
<i>Topic-1</i> Trigonometric Ratios and Trigonometric Identities and its Domain and Range	
<i>Topic-2</i> Trigonometric Equations	
<i>Topic-3</i> Height and Distance	
<i>Topic-4</i> Solution of Triangles	
<b>4. Complex Numbers</b>	<b>73-107</b>
<i>Topic-1</i> Algebraic Operations on Complex Number, Conjugate, Modulus and Argument (or Amplitude) of Complex Number	
<i>Topic-2</i> Square Roots of a Complex Number, Cube Roots of Unity, De-Moivre's Theorem and $n$ th Root of Unity	
<i>Topic-3</i> Rotational Theorem and Use of Complex Numbers in Geometry	
<b>5. Theory of Equations</b>	<b>108-129</b>
<i>Topic-1</i> Solutions of Quadratic Equations, Sum and Product of Roots, Nature of Roots, Relation between Roots and Coefficients, Formation of Quadratic Equation	
<i>Topic-2</i> Conditions for Common Roots, Maximum & Minimum Value of Quadratic Equation, Solution of Quadratic Inequalities	
<b>6. Permutations and Combinations</b>	<b>130-152</b>
<i>Topic-1</i> Fundamental Principle of Counting, Permutations, Conditional Permutations, Circular Permutations and Rank in a Dictionary	
<i>Topic-2</i> Combinations, Conditional Combinations, Arrangement in Groups and Derrangement	
<i>Topic-3</i> Applications of Permutations and Combinations in Geometry	

<b>7. Binomial Theorem</b>	<b>153-181</b>
<i>Topic-1</i> Binomial Expansion and General Term	
<i>Topic-2</i> Properties of Binomial	
<b>8. Sequences and Series</b>	<b>182-227</b>
<i>Topic-1</i> Arithmetic Progression (AP), Mean and Properties of AP	
<i>Topic-2</i> Geometric Progression (GP), Mean and Properties of GP, Relation between AM and GM	
<i>Topic-3</i> Harmonic Progression (HP), Mean and Properties of HP, Relation between AM, GM and HM	
<i>Topic-4</i> Sum upto $n$ -terms and Infinite Terms of Special Series $\sum n, \sum n^2, \sum n^3$ , Arithmetic-Geometric Progression	
<b>9. Straight Lines and Pair of Straight Lines</b>	<b>228-254</b>
<i>Topic-1</i> Rectangular Cartesian Co-ordinates and Straight Lines	
<i>Topic-2</i> Pair of Straight Lines	
<b>10. Conic Section</b>	<b>255-337</b>
<i>Topic-1</i> Circles	
<i>Topic-2</i> Parabola	
<i>Topic-3</i> Ellipse	
<i>Topic-4</i> Hyperbola	
<b>11. Limits and Derivatives</b>	<b>338-359</b>
<i>Topic-1</i> Limits of Algebraic, Exponential and Logarithmic Functions	
<i>Topic-2</i> Limits of Trigonometric Functions	
<i>Topic-3</i> Methods of Differentiation	
<b>12. Statistics</b>	<b>360-377</b>
<i>Topic-1</i> Calculation of Mean, Median & Mode of Grouped and Ungrouped Data	
<i>Topic-2</i> Calculation of Standard Deviation, Variance & Mean Deviation for Grouped and Ungrouped Data	
<b>13. Probability</b>	<b>378-393</b>
<i>Topic-1</i> Probability of an Event, Mutually Exclusive & Exhaustive Events, Equality Likely Events	
<i>Topic-2</i> Use of Union, Intersection, De-Morgan's Law and Venn-Diagrams in Probability	

## Class 12

<b>14. Relations and Functions</b>	<b>394-418</b>
<i>Topic-1</i> Types of Relations, Equivalence Relations, Function (or Mappings), One-one into & Onto Function (Mapping)	
<i>Topic-2</i> Composition of Functions, Inverse of a Function, Binary Operations	
<b>15. Inverse Trigonometric Functions</b>	<b>419-438</b>
<i>Topic-1</i> Domain and Range of Inverse, Trigonometric Functions, Principle Value of Inverse Trigonometric Function	
<i>Topic-2</i> Properties of Inverse Trigonometric Functions, Infinite Series of Inverse Trigonometric Functions	
<b>16. Matrices</b>	<b>439-452</b>
<i>Topic-1</i> Order of Matrices, Type of Matrices, Addition Subtraction of Matrices, Scalar Multiplication of Matrices, Multiplication of Matrices	
<i>Topic-2</i> Transpose of a Matrices, Symmetric & Skew- symmetric Matrices, Inverse of a Matrix by Elementary Row Operation	
<b>17. Determinants</b>	<b>453-501</b>
<i>Topic-1</i> Minor & Co-factor of an Element of a Determinant, Value of a Determinant	
<i>Topic-2</i> Properties of Determinant	
<i>Topic-3</i> Adjoint and Inverse of a Matrix	
<i>Topic-4</i> Solving System of Equation	
<b>18. Continuity and Differentiability</b>	<b>502-550</b>
<i>Topic-1</i> Continuity	
<i>Topic-2</i> Differentiability	
<i>Topic-3</i> Differentiation of Inverse/ Implicit/ Parametric Functions, a Function w.r.t another Function, Logarithmic Functions and Composite Functions	
<i>Topic-4</i> Differentiation of Infinite Series, Successive Differentiation, Rolle's and Lagrange's Mean Value Theorem	
<b>19. Applications of Derivatives</b>	<b>551-595</b>
<i>Topic-1</i> Rate of Change of Quantities	
<i>Topic-2</i> Increasing and Decreasing Functions	
<i>Topic-3</i> Tangents and Normals	
<i>Topic-4</i> Approximations, Maxima and Minima	

<b>20. Integrals</b>	<b>596-666</b>
<i>Topic-1</i> Indefinite Integrals	
<i>Topic-2</i> Definite Integrals	
<i>Topic-3</i> Summation of Series by Integration	
<b>21. Applications of Integrals</b>	<b>667-698</b>
<i>Topic-1</i> Area Under Simple Curves in Standard Forms	
<i>Topic-2</i> Area Bounded Between the Curves	
<b>22. Differential Equations</b>	<b>699-736</b>
<i>Topic-1</i> Order Degree & Formation of a DE Solution of Differential Equations by Variable Separation Method	
<i>Topic-2</i> Linear Differential Equation & Exact Differential Equation	
<i>Topic-3</i> Applications of Homogeneous Differential Equations	
<b>23. Vector Algebra</b>	<b>737-781</b>
<i>Topic-1</i> Algebra of Vectors and Modulus of Vectors	
<i>Topic-2</i> Scalar or Dot Product of Two Vectors and Its Applications	
<i>Topic-3</i> Vectors or Cross Product of Two Vectors & Its Applications	
<i>Topic-4</i> Scalar & Vector Triple Product	
<b>24. Three Dimensional Geometry</b>	<b>782-837</b>
<i>Topic-1</i> System of Co-ordinates, Direction Cosines and Direction Ratios of a Line	
<i>Topic-2</i> Lines	
<i>Topic-3</i> Plane	
<i>Topic-4</i> Lines and Plane	
<b>25. Probability</b>	<b>838-871</b>
<i>Topic-1</i> Conditional Probability, Multiplication Theorem on Probability, Baye's Theorem, Law of Total Probability	
<i>Topic-2</i> Probability Distribution of a Random Variable, Bernoulli Trials and Binomial Distribution	
<b>26. Miscellaneous</b>	<b>872-886</b>