

**SYLLABUS BREAKUP (2022-23)**  
**SUBJECT: APPLIED MATHEMATICS**  
**CLASS XI**

**AUGUST**

<b>TOTAL NUMBER OF WORKING DAYS:</b>	<b>14 Days (app.)</b>
<b>TOTAL NUMBER OF PERIODS INVOLVED IN TEACHING:</b>	<b>16 periods (app.)</b>
<b>CHAPTER</b>	<b>NO. OF PERIODS</b>
<b>1. SETS</b>	<b>[7]</b>
[a] Sets and their Representations	1
[b] Empty Set, Finite and Infinite Sets, Equal Sets	1
[c] Subsets, Power Sets, Universal Set, Intervals	2
[d] Venn Diagram, Operation on Sets	1
[e] Complements of a set, Problems on Union and Intersection of Two Sets	2
<b>2. RELATIONS AND FUNCTIONS</b>	<b>[9]</b>
[a] Cartesian product of Sets	1
[b] Relations	2
[c] Functions	2
[d] Domain & Range	2
[e] Types of functions and their graphical representation	2

**SEPTEMBER**

<b>TOTAL NUMBER OF WORKING DAYS:</b>	<b>12 Days (app.)</b>
<b>TOTAL NUMBER OF PERIODS INVOLVED IN TEACHING:</b>	<b>16 periods (app.)</b>
<b>3. SEQUENCE AND SERIES</b>	<b>[7]</b>
[a] Differentiate between sequence and series	1
[b] Arithmetic Progression, Formula of nth term, sum of n terms, Arithmetic Mean of two positive numbers	1
[c] Application problems based on AP	1
[d] Geometric Progression, Formula of nth term of a GP, sum of n terms of a GP, Geometric Mean of two positive numbers	2
[e] Problems based on application of a GP and relation between AM and GM	2
<b>4. PERMUTATIONS AND COMBINATIONS</b>	<b>[7]</b>
[a] Factorial, Definition and usage of factorial in counting principles	1
[b] Fundamental principle of counting, Addition and Multiplication principles, Permutations, Definition and use to solve simple problems	2
[c] Theorems on permutations under different conditions	2
[d] Define combination, Differentiate between permutation and combination. To apply the formula of combination to solve the related problems	2
<b>5. MATHEMATICAL REASONING</b>	<b>[2]</b>
Solve logical problems involving odd man out, syllogism, blood relation and coding decoding	

**OCTOBER & NOVEMBER**

<b>TOTAL NUMBER OF WORKING DAYS:</b>	<b>35 Days (app.)</b>
<b>TOTAL NUMBER OF PERIODS INVOLVED IN TEACHING:</b>	<b>49 periods (app.)</b>
<b>6. NUMBERS, QUANTIFICATION AND NUMERICAL APPLICATIONS</b>	<b>[12]</b>
[a] Binary Numbers, Definition of number system(decimal and binary), Conversion from decimal to binary system and vice versa	2
[b] Indices, Logarithm and Antilogarithm, Laws and properties of logarithms, Simple applications of logarithm and antilogarithm	3
[c] Numerical Applications: Average, Clock, Calendar, Time, Work and Distance,	

Mensuration and Seating arrangement	7
<b>7. CALCULUS (FUNCTION ALREADY COMPLETED)</b>	<b>[8]</b>
[a] Concept of limits and continuity of a function	2
[b] Instantaneous rate of change	2
[c] Differentiation as a process of finding derivative	2
[d] Derivatives of algebraic functions using Chain Rule	2
<b>8. PROBABILITY</b>	<b>[12]</b>
[a] Introduction, Random Experiment, Sample Space and Event, Types of events and their probability	2
[b] Conditional Probability	3
[c] Total Probability	3
[d] Bayes' Theorem	3
[e] Revision	1
<b>9. DESCRIPTIVE STATISTICS</b>	<b>[17]</b>
[a] Data Interpretation: Measure of Dispersion	6
[b] Skewness and Kurtosis	4
[c] Percentile rank and Quartile rank	3
[d] Correlation	4

#### DECEMBER & JANUARY

<b>TOTAL NUMBER OF WORKING DAYS:</b>	<b>23 Days (app.)</b>
<b>TOTAL NUMBER OF PERIODS INVOLVED IN TEACHING:</b>	<b>30 periods (app.)</b>

<b>10. FINANCIAL MATHEMATICS</b>	<b>[20]</b>
[a] Interest and Interest Rates	2
[b] Accumulation with simple and compound interest	2
[c] Simple and compound interest rates with equivalency	2
[d] Effective rate of interest	2
[e] Present value, net present value and future value	2
[f] Annuities, Calculating value of Regular Annuity	2
[g] Simple applications of regular annuities (upto 3 period)	2
[h] Tax, calculation of tax, simple applications of tax calculation in Goods and service tax, Income Tax	2
[i] Bills, tariff rates, fixed charge, service charge	2
[j] Calculation and interpretation of electricity bill, water supply bill and other supply bills	2

#### 11. COORDINATE GEOMETRY

<b>Chapter: Straight Line</b>	<b>[10]</b>
[a] Slope and equation of a line in various form	4
[b] Angle between two lines	2
[c] The perpendicular from a given point on a given line	2
[d] The distance between two lines	2

#### FEBRUARY

<b>TOTAL NUMBER OF WORKING DAYS:</b>	<b>10 Days (app.)</b>
<b>TOTAL NUMBER OF PERIODS INVOLVED IN TEACHING:</b>	<b>14 periods (app.)</b>

Chapter: Circle	[3]
[a] Definition and different forms of equation of a circle	1
[b] Problems based on applications of circle	2
Chapter: Parabola	[3]
[a] Definition and related terms	1
[b] Eccentricity of a parabola and derive the equation of parabola	1
[c] Problems based on application of parabola	1

<b>REVISION</b>	<b>[8]</b>
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