



**MATHEMATICS SCHEME
S.S.1**

SN	TOPIC	TOPICS
1.	Number System	<ul style="list-style-type: none"> - Conversion from one base to base 10 - Conversion of number from one base to another base - Conversion of decimal fraction in one base to base 10 - Addition, subtraction, multiplication and division of number bases - Application to computer programming
2.	Modular Arithmetics	<ul style="list-style-type: none"> - Revision of addition, subtraction, multiplication and division of integers - Concept of module arithmetic - Addition, subtraction and multiplication operation in module arithmetic - Application to daily life
3.	Indices	<ul style="list-style-type: none"> - Revision of standard form - Introduce indices and example - Laws of indices - $a^x \times a^y = a^{x+y}$ - $a^x \div a^y = a^{x-y}$ - $(a)^y = a^{xy}$ etc - Application of indices - Simple indicial equation
4.	Logarithms	<ul style="list-style-type: none"> - Deducing logarithms from indices and standard form - Definition of logarithm - Graph of $U = 10$ - Reading of logarithms and antilogarithms tables - Use of logarithm tables in calculation, division (powers and roots) - Application of logarithms in capital market and other real life problems
5.	Sets	<ul style="list-style-type: none"> - Definition of set - Set notation - Listing or roster method - Rule method - Set builder notation - Types of set - Empty set

		<ul style="list-style-type: none"> - Universal set - Equal and equivalent sets - Set operations - Union - Intersection - Complement - Venn diagram and application up to 3 set problem
6.	Simple equations and variation	<ul style="list-style-type: none"> - Change of subject formular - Formular involving brackets roots and power - Subject of formular and substitution - Types of variations - Direct, inverse - Joint and partial - Applications of variations

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7.	Quadratic equations	<ul style="list-style-type: none"> - Revision of factorization of quadratic expressions - Solution of quadratic equations of the form $ax^2 + bx + c = 0$; $a \neq 0$ or $b = 0$ - formulation of quadratic equation with given roots - drawing quadratic graphs - obtain roots from a quadratic graph - applications of quadratic equation to real life situations
8.	Logical Reasoning	<ul style="list-style-type: none"> - Simple statement - Meaning of simple statements - True or false - Negation of simple statements - Compound statements - Logic operations and symbols - List of logical operations and symbols - Truth value of \neg - A compound statement - Negation (N/A) - Conjugation - Disjunction - Conditional statement - Bi-conditional statement
9.	Construction	<ul style="list-style-type: none"> - Revision of construction of triangles with given sides - Bisection of an angle; 30°, 45°, 60° and 90° - Construction of an angle equal to a given angle, 4-sided plane figures given certain conditions - Locus of moving points equidistant from 2 lines, 2 points and constant distance from a point, etc.

10	Proof of some basic theorems	<ul style="list-style-type: none"> - Proofs of: angle sum of a triangle is 180° - The exterior angle is equal to sum of two interior opposite angles - Riders including - Angles of parallel lines - Angles in a polygon - Congruent triangles - Properties of parallelogram - Intercept theorem
11	Trigonometric ratio	<ul style="list-style-type: none"> - Basic trigonometric ratios - Sine - Cosine - Tangent with respect to right-angle triangle - Trigonometric ratio of: - Angle 30° - Angle 45° - Angle 60° - Applications of trigonometric ratios of special angle to simple problems - Trigonometric ratios relational to the unit circle - Graphs of sine and cosine -
12	Measurement	<ul style="list-style-type: none"> - Length of areas of circles - Perimeter of sectors and segments - Areas of sectors of circle - Relation between the sector and surface area of a cone

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13.		<ul style="list-style-type: none"> - Surface area and volume of solids - Cube, cuboid - Prism - Pyramid - Surface area of frustum of a cone and pyramid - Composite shapes
14.	Data Presentation	<ul style="list-style-type: none"> - Revision of collection, tabulation and presentation of data - Frequency distribution - Linear graphs, Bar chart (graph) and Histogram - Pie chart - Frequency polygon
15.	Measurement of Central Tendency	<ul style="list-style-type: none"> - Mean, Mode and Median - Mode from Histogram - Mean and median from tables - Range

		<ul style="list-style-type: none">- Variance and Standard deviation
16.	Trigonometric ratio $0^\circ < \theta < 360^\circ$	<ul style="list-style-type: none">- Trigonometric ratios- Graphs of sine and cosine for $0^\circ < \theta < 360^\circ$- Deduction from the sine and cosine graphs
17.	Construction	<ul style="list-style-type: none">- Locus of points from 2 lines- Locus of points from 2 points- Locus of points from a constant point