

S.2 MATHEMATICS TOPIC OUTLINE

1. MAPPINGS AND RELATIONS Remark
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a)	Using arrow diagrams / mappings to represent relations and functions.	
b)	Identifying domain and range of a mapping.	
c)	Describing and distinguishing between function and non-function mappings.	

2. VECTORS AND TRANSLATIONS Remark

a)	Defining translation with a vector.	
b)	Identifying Scalars and Vectors.	
c)	Using vector notation.	
d)	Representing vectors both single and combined geometrically.	

3. GRAPHS Remark

a)	Tabulating values from given relations.	
b)	Plotting and drawing lines through given points.	
c)	Choosing and using appropriate scales.	
d)	Drawing, reading and interpreting a given graph. (e.g. Distance-Time and Speed-Time graphs for estimating Distance, Speed and Time.	

4. NUMERICAL CONCEPT-1 (INDICES) Remark

a)	Giving approximate answer to calculations.	
b)	Writing numbers to a given number of significant figures.	
c)	Differentiating between significant figures and demand places.	
d)	Expressing numbers in scientific notation.	
e)	Identifying base numbers and indices.	
f)	Stating and applying the laws of indices in calculations.	
g)	Using a calculator to find powers and roots.	

5. INEQUALITIES AND REGIONS Remark

a)	Identifying and use inequality symbols.	
b)	Illustrating inequalities on a number line.	
c)	Solving linear inequalities in one unknown.	
d)	Representing linear inequalities graphically.	
e)	Forming simple linear inequalities for regions on a graph.	

6. ALGEBRA - 2		Remark
a)	Recognizing equivalent Quadratic expressions.	
b)	Expanding Algebraic Expressions.	
c)	Identifying Perfect Squares.	
d)	Factorizing Quadratic Expressions.	
e)	Solving Quadratic Equations where the Quadratic Expression can be factorized.	

7. SIMILARITIES AND ENLARGEMENT		Remark
a)	Identifying Similar Figures.	
b)	Stating and Using the Properties of Similar Figures.	
c)	Defining Enlargement.	
d)	Stating the Properties of Enlargement, to Construct Objects and Images.	
e)	Understanding and Using the Relationship Between Linear, Area and Volume Scale Factor.	

8. THE CIRCLE		Remark
a)	Identifying various parts of a circle. Stating and use formulas for circumference and area enclosed by a circle.	
b)	Stating and using formulas for circumference and area enclosed by a circle.	

9. ROTATION		Remark
a)	Identifying the Order of Rotational Symmetry of plane figures.	
b)	Distinguishing between Clockwise and Anti clockwise rotation.	
c)	Stating Properties of Rotation as a transformation including congruence.	
d)	Determining the centre and angle of rotation.	
e)	Applying Properties of rotation in the Cartesian Plane.	

10. LENGTH AND AREA PROPERTIES OF 2-DIMENSIONAL GEOMETRICAL FIGURES		Remark
a)	Describing the length of 2-D geometric figures.	
b)	Developing, understanding and stating Pythagoras' theorem.	
c)	Applying Pythagoras' theorem to right angles and isosceles triangles.	
d)	Understanding the meaning of area in 2-D geometrical figures (triangles and rectangles).	

11. NETS, AREAS AND VOLUMES OF SOLIDS

		Remark
a)	Forming nets of common solids.	
b)	Identifying common solids and their properties including, faces, edges and their vertices.	
c)	Stating units of measures.	
d)	Converting units from one form to another.	
e)	Calculating surface areas of three dimensional figures.	
f)	Calculating the volume of cubes and cuboids.	

12. NUMERICAL CONCEPTS-2 (SURDS)

		Remark
a)	Using Surds to represent roots that cannot be presented exactly as decimal.	
b)	Manipulating and Simplifying expressions with Surds.	

13. SET THEORY

		Remark
a)	Describing a set and identifying elements of a set.	
b)	Identifying different types of sets and their symbols.	
c)	Determining the number of elements in a set.	
d)	Representing and showing different operations on sets by shading the different regions in a Venn diagram.	
e)	Applying sets in practical situations using two and three sets.	

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