Syllabus Indicator and Exam Portion
Subject: Mathematics — CBSE – 2023-24 — Grade: VIII

PHASE 1			
Ch. No.	**Chapter Name**	**Subtopics**	**PT1 portion** **Total Marks: 40** **Duration: 1 hour 30 minutes**
1	Rational Numbers	▪ 1.1 Introduction ▪ 1.2 Properties of Rational Numbers ○ 1.2.1 Closer ○ 1.2.2 Commutativity ○ 1.2.3 Associativity ○ 1.2.4 The role of zero (0) ○ 1.2.5 The role of 1 ○ 1.2.6 Negative of a number ○ 1.2.7 Reciprocal ○ 1.2.8 Distributivity of multiplication over addition for rational numbers ▪ 1.3 Representation of Rational Numbers on the Number Line ▪ 1.4 Rational Numbers between Two Rational Numbers	▪ 1.1 Introduction ▪ 1.2 Properties of Rational Numbers ○ 1.2.1 Closer ○ 1.2.2 Commutativity ○ 1.2.3 Associativity ○ 1.2.4 The role of zero (0) ○ 1.2.5 The role of 1 ○ 1.2.8 Distributivity of multiplication over addition for rational numbers
2	Linear Equations in One Variable	▪ 2.1 Introduction ▪ 2.2 Solving Equations which have Linear Expressions on one Side and Numbers on the other Side ▪ 2.3 Some Applications ▪ 2.4 Solving Equations having the Variable on both Sides ▪ 2.5 Some More Applications ▪ 2.6 Reducing Equations to Simpler Form ▪ 2.7 Equations Reducible to the Linear Form	▪ 2.1 Introduction ▪ 2.4 Solving Equations having the Variable on both Sides ▪ 2.6 Reducing Equations to Simpler Form
5	Data Handling	▪ 5.1 Looking for Information ▪ 5.2 Organising Data ▪ 5.3 Grouping Data ○ 5.3.1 Bars with a difference ▪ 5.4 Circle Graph or Pie Chart	▪ 5.1 Looking for Information ▪ 5.4 Circle Graph or Pie Chart ○ 5.4.1 Drawing pie charts ▪ 5.5 Chance and Probability ○ 5.5.1 Getting a result

		○ 5.4.1 Drawing pie charts ▪ 5.5 Chance and Probability ○ 5.5.1 Getting a result ○ 5.5.2 Equally likely outcomes ○ 5.5.3 Linking chances to probability ○ 5.5.4 Outcomes as events ○ 5.5.5 Chance and probability related to real life	○ 5.5.2 Equally likely outcomes ○ 5.5.3 Linking chances to probability ○ 5.5.4 Outcomes as events ▪ 5.5.5 Chance and probability related to real life
6	Squares and Square Roots	▪ 6.1 Introduction ▪ 6.2 Properties of Square Numbers ▪ 6.3 Some More Interesting Patterns ▪ 6.4 Finding the Square of a Number ○ 6.4.1 Other patterns in squares ○ 6.4.2 Pythagorean triplets ▪ 6.5 Square Roots ○ 6.5.1 Finding square roots ○ 6.5.2 Finding square root through repeated subtraction ○ 6.5.3 Finding square root through prime factorisation ○ 6.5.4 Finding square root by division method ▪ 6.6 Square Roots of Decimals ▪ 6.7 Estimating Square Root	▪ 6.1 Introduction ▪ 6.2 Properties of Square Numbers ▪ 6.3 Some More Interesting Patterns ▪ 6.4 Finding the Square of a Number ○ 6.4.1 Other patterns in squares ○ 6.4.2 Pythagorean triplets ▪ 6.5 Square Roots ○ 6.5.1 Finding square roots ○ 6.5.2 Finding square root through repeated subtraction ○ 6.5.3 Finding square root through prime factorisation ○ 6.5.4 Finding square root by division method ▪ 6.6 Square Roots of Decimals

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PHASE 2			
Ch. No.	**Chapter Name**	**Subtopics**	**HYE portion** **Total Marks: 80** **Duration: 3 hours**
			PT1 portion is included
3	Understanding Quadrilaterals	▪ 3.1 Introduction ▪ 3.2 Polygons ○ 3.2.1 Classification of polygons ○ 3.2.2 Diagonals ○ 3.2.3 Convex and concave polygons ○ 3.2.4 Regular and irregular polygons ○ 3.2.5 Angle sum property ▪ 3.3 Sum of the Measures of the Exterior Angles of a Polygon ▪ 3.4 Kinds of Quadrilaterals ○ 3.4.1 Trapezium ○ 3.4.2 Kite ○ 3.4.3 Parallelogram ○ 3.4.4 Elements of a parallelogram ○ 3.4.5 Angles of a parallelogram ○ 3.4.6 Diagonals of a parallelogram ▪ 3.5 Some Special Parallelograms ○ 3.5.1 Rhombus ○ 3.5.2 A rectangle ○ 3.5.3 A square	○ 3.2.3 Convex and concave polygons ○ 3.2.4 Regular and irregular polygons ▪ 3.3 Sum of the Measures of the Exterior Angles of a Polygon ▪ 3.4 Kinds of Quadrilaterals ○ 3.4.1 Trapezium ○ 3.4.2 Kite ○ 3.4.3 Parallelogram ○ 3.4.4 Elements of a parallelogram ○ 3.4.5 Angles of a parallelogram ○ 3.4.6 Diagonals of a parallelogram ▪ 3.5 Some Special Parallelograms ○ 3.5.1 Rhombus ○ 3.5.2 A rectangle ○ 3.5.3 A square
4	Practical Geometry*	▪ 4.1 Introduction ▪ 4.2 Constructing a Quadrilateral ○ 4.2.1 When the lengths of four sides and a diagonal are given ○ 4.2.2 When two diagonals and three sides are given ○ 4.2.3 When two adjacent sides and three angles are known	▪ Not for Assessment

		○ 4.2.4 When three sides and two included angles are given ▪ 4.3 Some Special Cases	
7	Cubes and Cube Roots	▪ 7.1 Introduction ▪ 7.2 Cubes ○ 7.2.1 Some interesting patterns ○ 7.2.2 Smallest multiple that is a perfect cube ▪ 7.3 Cube Roots ○ 7.3.1 Cube root through prime factorisation method ○ 7.3.2 Cube root of a cube number	▪ 7.1 Introduction ▪ 7.2 Cubes ○ 7.2.1 Some interesting patterns ○ 7.2.2 Smallest multiple that is a perfect cube ▪ 7.3 Cube Roots ○ 7.3.1 Cube root through prime factorisation method
8	Comparing Quantities	▪ 8.1 Recalling Ratios and Percentages ▪ 8.2 Finding the Increase or Decrease Per cent ▪ 8.3 Finding Discounts ○ 8.3.1 Estimation in percentages ▪ 8.4 Prices Related to Buying and Selling (Profit and Loss) ○ 8.4.1 Finding cost price/selling price, profit %/loss% ▪ 8.5 Sales Tax/Value Added Tax/Goods and Services Tax ▪ 8.6 Compound Interest ▪ 8.7 Deducing a Formula for Compound Interest ▪ 8.8 Rate Compounded Annually or Half Yearly (Semi Annually) ▪ 8.9 Applications of Compound Interest Formula	▪ 8.1 Recalling Ratios and Percentages ▪ 8.3 Finding Discounts ○ 8.3.1 Estimation in percentages ▪ 8.5 Sales Tax/Value Added Tax/Goods and Services Tax ▪ 8.6 Compound Interest ▪ 8.7 Deducing a Formula for Compound Interest ▪ 8.9 Applications of Compound Interest Formula

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PHASE 3			
Ch. No.	**Chapter Name**	**Subtopics**	**PT2 portion** **Total Marks: 40** **Duration: 1 hour 30 minutes**
9	Algebraic Expressions and Identities	▪ 9.1 What are Expressions? ▪ 9.2 Terms, Factors and Coefficients ▪ 9.3 Monomials, Binomials and Polynomials ▪ 9.4 Like and Unlike Terms ▪ 9.5 Addition and Subtraction of Algebraic Expressions ▪ 9.6 Multiplication of Algebraic Expressions: Introduction ▪ 9.7 Multiplying a Monomial by a Monomial ○ 9.7.1 Multiplying two monomials ○ 9.7.2 Multiplying three or more monomials ▪ 9.8 Multiplying a Monomial by a Polynomial ○ 9.8.1 Multiplying a monomial by a binomial ○ 9.8.2 Multiplying a monomial by a trinomial ▪ 9.9 Multiplying a Polynomial by a Polynomial ○ 9.9.1 Multiplying a binomial by a binomial ○ 9.9.2 Multiplying a binomial by a trinomial ▪ 9.10 What is an Identity? ▪ 9.11 Standard Identities ▪ 9.12 Applying Identities	▪ 9.5 Addition and Subtraction of Algebraic Expressions ▪ 9.6 Multiplication of Algebraic Expressions: Introduction ▪ 9.7 Multiplying a Monomial by a Monomial ○ 9.7.1 Multiplying two monomials ○ 9.7.2 Multiplying three or more monomials ▪ 9.8 Multiplying a Monomial by a Polynomial ○ 9.8.1 Multiplying a monomial by a binomial ○ 9.8.2 Multiplying a monomial by a trinomial ▪ 9.9 Multiplying a Polynomial by a Polynomial ○ 9.9.1 Multiplying a binomial by a binomial ○ 9.9.2 Multiplying a binomial by a trinomial
10	Visualising solid shapes*	▪ 10.1 Introduction ▪ 10.2 Views of 3D-Shapes ▪ 10.3 Mapping Space Around Us ▪ 10.4 Faces, Edges and Vertices	▪ Not for Assessment
11	Mensuration	▪ 11.1 Introduction ▪ 11.2 Let us Recall ▪ 11.3 Area of Trapezium ▪ 11.4 Area of a General Quadrilateral	▪ 11.1 Introduction ○ 11.4.1 Area of special quadrilaterals ▪ 11.5 Area of a Polygon ▪ 11.6 Solid Shapes

		○ 11.4.1 Area of special quadrilaterals ▪ 11.5 Area of a Polygon ▪ 11.6 Solid Shapes ▪ 11.7 Surface Area of Cube, Cuboid and Cylinder ○ 11.7.1 Cuboid ○ 11.7.2 Cube ○ 11.7.3 Cylinders ▪ 11.8 Volume of Cube, Cuboid and Cylinder ○ 11.8.1 Cuboid ○ 11.8.2 Cube ○ 11.8.3 Cylinder ▪ 11.9 Volume and Capacity	▪ 11.7 Surface Area of Cube, Cuboid and Cylinder ○ 11.7.1 Cuboid ○ 11.7.2 Cube ○ 11.7.3 Cylinders ▪ 11.8 Volume of Cube, Cuboid and Cylinder ○ 11.8.1 Cuboid ○ 11.8.2 Cube ○ 11.8.3 Cylinder ▪ 11.9 Volume and Capacity
12	Exponents and Powers	▪ 12.1 Introduction ▪ 12.2 Powers with Negative Exponents ▪ 12.3 Laws of Exponents ▪ 12.4 Use of Exponents to Express Small Numbers in Standard Form ○ 12.4.1 Comparing very large and very small numbers	▪ 12.1 Introduction ▪ 12.2 Powers with Negative Exponents ▪ 12.3 Laws of Exponents ▪ 12.4 Use of Exponents to Express Small Numbers in Standard Form ○ 12.4.1 Comparing very large and very small numbers

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PHASE 4			
Ch. No.	**Chapter Name**	**Subtopics**	**YE portion** **Total Marks: 80** **Duration: 3 hours**
			▪ **Ch. 2 & Ch. 6 of PT1; Ch. 3 of HYE are included** ▪ **PT2 portion is included**
13	Direct and Inverse Proportion	▪ 13.1 Introduction ▪ 13.2 Direct Proportion ▪ 13.3 Inverse Proportion	▪ 13.1 Introduction ▪ 13.2 Direct Proportion ▪ 13.3 Inverse Proportion
14	Factorisation	▪ 14.1 Introduction ○ 14.1.1 Factors of natural numbers ○ 14.1.2 Factors of algebraic expressions ▪ 14.2 What is Factorisation? ○ 14.2.1 Method of common factors ○ 14.2.2 Factorisation by regrouping terms ○ 14.2.3 Factorisation using identities ○ 14.2.4 Factors of the form (x + a) (x + b) ▪ 14.3 Division of Algebraic Expressions ○ 14.3.1 Division of a monomial by another monomial ○ 14.3.2 Division of a polynomial by a monomial ▪ 14.4 Division of Algebraic Expressions Continued (Polynomial ÷ Polynomial) ▪ 14.5 Can you Find the Error?	▪ 14.1 Introduction ○ 14.1.1 Factors of natural numbers ○ 14.1.2 Factors of algebraic expressions ▪ 14.2 What is Factorisation? ○ 14.2.1 Method of common factors ○ 14.2.2 Factorisation by regrouping terms ○ 14.2.3 Factorisation using identities ○ 14.2.4 Factors of the form (x + a) (x + b) ▪ 14.3 Division of Algebraic Expressions ○ 14.3.1 Division of a monomial by another monomial ○ 14.3.2 Division of a polynomial by a monomial ▪ 14.4 Division of Algebraic Expressions Continued (Polynomial ÷ Polynomial)
15	Introduction to Graph	▪ 15.1 Introduction ○ 15.1.1 A Bar graph ○ 15.1.2 A Pie graph (or a circle-graph) ○ 15.1.3 A histogram ○ 15.1.4 A line graph ▪ 15.2 Linear Graphs ○ 15.2.1 Location of a point	▪ 15.1 Introduction ○ 15.1.4 A line graph ▪ 15.3 Some Applications

		○ 15.2.2 Coordinates ▪ 15.3 Some Applications	
16	Playing with Numbers*	▪ 16.1 Introduction ▪ 16.2 Numbers in General Form ▪ 16.3 Games with Numbers ▪ 16.4 Letters for Digits ▪ 16.5 Tests of Divisibility ○ 16.5.1 Divisibility by 10 ○ 16.5.2 Divisibility by 5 ○ 16.5.3 Divisibility by 2 ○ 16.5.4 Divisibility by 9 and 3	▪ Not for Assessment
17	Sets and Venn diagram*	▪ 17.1 Subset and Superset of Set ▪ 17.2 Proper and Improper Subset ▪ 17.3 Operations on Sets ▪ 17.4 De Morgan's Law ▪ 17.5 Venn Diagram ▪ 17.6 Representing Set Relations using Venn Diagram ▪ 17.7 Analysing Set Operations using Venn Diagram ▪ 17.8 Solving Practical Problem using Venn Diagram	▪ Not for Assessment

*Chapter excluded/dropped by the CBSE from the Syllabus hence these chapters will not be assessed.