# NCERT SYLLABUS FOR MATHS

## GRADE 8

### Chapter 1: RATIONAL NUMBERS
### Key Concepts:

- Introduction to Rational Numbers.
- Some Basic Terminologies.
- Properties of Rational Numbers.
- Operations on Rational Numbers.
- Representation of Rational Numbers on Number Line.
- The number of Rational numbers existing between any two rational numbers.
- Solved examples on every concept.
- Practice questions(asked in the most fun way, through games) to check your understanding.

### Chapter 2: LINEAR EQUATION IN ONE VARIABLE
### Key Concepts:

- Introduction to the chapter by visiting the history of it.
- Basic terminologies to clear your existing doubts.
- How to solve Equations:
  - Having variable on one side
  - Having variables on both sides.
- Reducing equations to a simpler form.
- Solved examples explained in the form of interesting work problems and riddles.
- Assessments to check your understanding.

### Chapter 3: PRACTICAL GEOMETRY
### Key Concepts:

- Introduction to the chapter by practical examples.
- Constructing Quadrilaterals :
- When four sides and one diagonal are given.
- When four sides and three sides are given.
- When two adjacent sides and three angles are given.
- When three sides and two included angles are given.
- When other special properties are known.
- Solved examples on every concept.
- Assessments to check your understanding.

## Chapter 4: PRACTICAL GEOMETRY

### Key Concepts:

- Introduction to the chapter by practical examples.
- Constructing Quadrilaterals :
- When four sides and one diagonal are given.
- When four sides and three sides are given.
- When two adjacent sides and three angles are given.
- When three sides and two included angles are given.
- When other special properties are known.
- Solved examples on every concept.
- Assessments to check your understanding.

## Chapter 5: DATA HANDLING

### Key Concepts:

- Introduction to the chapter by a real-life connection and usage.
- Types of Data.
- Different Types of Graphs.
- Organizing Data.
- Grouping Data.
- Terminologies.
- Bars with a difference.
- Different types of charts and how to draw them.
- Chances and Probability.
- Linking Chances to Probability.
- Outcomes as events.
- Chances and Probability related to real-life situations.
- Assessments to check your understanding in the most interesting way.

## Chapter 6: SQUARES AND SQUARE ROOTS

### Key Concepts:

- Introduction to the concept of square roots and square numbers.
- Properties of square numbers.
- Numbers and their squares ending with 1, 6, 0.
- Triangular Numbers and other patterns seen in numbers.
- Numbers between square numbers.
- Operations on consecutive natural numbers.
- How to find the square root of a number by different methods such as the division method.
- Pythagorean Triplets and how to find them.
- Solved examples for every concept.
- Assessments to check your understanding.

## Chapter 7: CUBES AND CUBE ROOTS

### Key Concepts:

- Introduction to cubes and cubes roots.
- Cubes and their prime factors.
- Smallest multiple that makes a perfect cube.
- Cube roots and How to find them.
- Finding cube root by Prime Factorisation.
- Solved examples on every concept.
- Assessment to check your understanding.

## Chapter 8: COMPARING QUANTITIES

### Key Concepts:

- Introduction to the concept in the most creative way.
- Increase and decrease percentage.
- Know everything about Discount.
- Find the cost price, selling price, and overhead expenses.
- Profit and Loss.
- More about Tax.
- Simple Interest and Compound Interest.
- Solved examples on every concept.
- Assessment to check your understanding.

## Chapter 9: ALGEBRAIC EXPRESSIONS AND IDENTITIES

### Key Concepts:

- Introduction to the concept in the most interesting way.
- Some terminologies and real-life examples.
- Algebraic expressions and their types.
- Like terms and unlike terms.
- Operations(Addition and Subtraction) on Algebraic Expressions.
- Multiplication of Algebraic Expressions:
  - Multiplication of a monomial by a monomial.
  - Multiplication of a monomial by a polynomial.
  - Multiplication of a polynomial by a polynomial.
- What are identities?
- Usage of Algebraic identities in solving expressions.
- Solved examples on every concept.
- Assessment to check your understanding.

## Chapter 10: VISUALISING SOLID SHAPES

### Key Concepts:

- Introduction to solid shapes.
- Differences between 2 Dimensional and 3 Dimensional shapes.
- How we can view 3 Dimensional shapes.
- What is Mapping?
- Some terminologies such as faces, edges, and vertices.
- What is a polyhedron and what are its types?
- Know more about Prisms, Pyramids, and their type.
- Know everything about Euler's Formula.
- Solved examples on every concept.
- Assessment to check your understanding.

## Chapter 11: MENSURATION

### Key Concepts:

- Introduction to the concept in the most creative way.
- Recalling previous concepts such as the area of polygons.
- Square, rectangle, circles, parallelogram, trapezium, circles with examples.
- Area of general quadrilaterals and special quadrilaterals.
- Everything about Solid shapes.
- Surface area and volume of cube, cuboid, and cylinder.
- Solved examples on every concept.
- Assessment to check your understanding.

## Chapter 12: EXPONENTS AND POWERS

### Key Concepts:

- Introduction to the chapter.
- Laws of Exponents.
- Expansion of numbers using exponents.
- Expressing small numbers in standard form.
- Approximate comparison of very large and very small numbers.
- Solved examples on every concept.
- Assessment to check your understanding.

## Chapter 13: DIRECT AND INVERSE PROPORTION

### Key Concepts:

- Introduction to the concept of proportion.
- Types of proportion and real-life usage.
- Direct Proportion.

- Inverse Proportion.
- Real-life examples and word problems.
- Assessment to check your understanding.

## Chapter 14: FACTORISATION
### Key Concepts:

- Introduction to the concept by recalling factors of some natural numbers.
- Factors of Algebraic expressions.
- Factorisation by regrouping.
- Factorisation by using identities.
- Division of Algebraic expressions
  - 1. Monomial by a monomial.
  - 2. Polynomial by a monomial.
  - 3. Polynomial by a polynomial.
- Kids, are you ready to find an error?
- Real-life examples and word problems.
- Assessment to check your understanding.

## Chapter 15: PLAYING WITH NUMBERS
### Key Concepts:

- Introduction to the concept.
- Writing Numbers in a general form.
- Playing some games with numbers.
- Replacing the digits with letters.
- Test of divisibility.
- Real-life examples and word problems.
- Assessment to check your understanding.