# CLASS 9 MATHEMATICS — LO's Aligned Monthly Split-up Syllabus (April 2026–March 2027) + Portion Boundaries + Exams + Weightage + Question Paper Design + Blueprint (For NON-SoE)

## Developed by:- Jharkhand Council Of Educational Research & Training (Curriculum Division)

| Month | Teaching Days (Available) | NCERT Chapter Titles | Sub-topics / Portion Boundary | LOs (*LO Mapping - IDs) (NCERT Secondary Stage LO-2017) | Practicals / Activities (Minimum) | Assessment / Exams (प्रश्न पत्र एवं उत्तर कुंजिका निर्माण) |
|---|---|---|---|---|---|---|
| Apr2026 + May 2026 + Jun 2026 | | Mathematics: Chapter 1 Number Systems; Chapter 2 Polynomials; Chapter 3 Coordinate Geometry | Ch 1: irrational numbers, real numbers and their decimal expansions, operations on real numbers, laws of exponents for real numbers. Ch 2: polynomials in one variable, zeroes of a polynomial, factorisation of polynomials, algebraic identities. Ch 3: Cartesian system, plotting and locating points in the plane. Portion boundary: Chapters 1–3 complete. | M1, M2, M8, M12 | Number line and real-number activities; factorisation and algebraic identity drill; Cartesian plane plotting task; mental estimation and problem-solving worksheet. | April to June portion tested in Project RAIL on 07-07-2026 DIET Hazaribag एवं DIET Jamtara. |
| Jul 2026 | 14 | Mathematics: Chapter 4 Linear Equations in Two Variables; Chapter 5 Introduction to Euclid's Geometry | Ch 4: linear equations in two variables, solutions and graphical representation, relating algebraic and graphical forms to daily-life situations. Ch 5: Euclid's definitions, axioms and postulates; discussion of mathematical statements using axiomatic approach. Portion boundary: Chapters 4–5 complete. | M3, M4, M5, M12 | Graph drawing on graph paper; real-life linear equation word problems; classroom discussion on axioms and postulates; comparison of geometrical shapes. | July portion tested in Project RAIL on 04-08-2026 DIET Latehar एवं DIET Lohardaga . |
| Aug 2026 | 12 | Mathematics: Chapter 6 Lines and Angles | Basic terms and definitions, intersecting and non-intersecting lines, pairs of angles, lines parallel to the same line, theorems and logical proof-based questions. Portion boundary: Chapter 6 complete. | M4, M5, M7, M12 | Paper-folding and angle relation activities; theorem-proof practice; identification of parallel and perpendicular lines in surroundings. | Half Yearly Examination: 07-09-2026 to 12-09-2026 (covers taught portion up to Aug 2026) |
| Sep 2026 | 23 | Mathematics: Chapter 7 Triangles; Chapter 8 Quadrilaterals | Ch 7: congruence of triangles, criteria for congruence, properties of triangles, more criteria for congruence. Ch 8: properties of a parallelogram, midpoint theorem and proof-based applications. Portion boundary: Chapters 7–8 complete. | M4, M5, M6, M7, M12 | Geometrical proof discussions; triangle construction and congruence activities; midpoint theorem verification; Half-yearly remedial practice. | September portion tested in Project RAIL on 06-10-2026 DIET Ramgarh एवं DIET Ranchi |
| Oct 2026 | 22 | Mathematics: Chapter 9 Circles | Angle subtended by a chord at a point, perpendicular from the centre to a chord, equal chords and distances from the centre, angle subtended by an arc, cyclic quadrilaterals and related proofs. Portion boundary: Chapter 9 complete. | M4, M5, M7, M12 | Circle theorem activities; geometry-box constructions; cyclic quadrilateral proof practice; conceptual worksheet on chord and arc relations. | October portion tested in Project RAIL on 03-11-2026 DIET Simdega एवं DIET W-Singhbhum . |
| Nov 2026 | 14 | Mathematics: Chapter 10 Heron's Formula; Chapter 11 Surface Areas and Volumes | Ch 10: area of a triangle by Heron's formula and application problems. Ch 11: surface areas and volumes of right circular cone and sphere, visualising solids from daily life. Portion boundary: Chapters 10–11 complete. | M6, M11, M12 | Area-based practical tasks; model-based understanding of cone and sphere; mensuration word problems; comparison of surface area and volume in daily-life objects. | November portion tested in Project RAIL on 08-12-2026 DIET Deoghar एवं DIET Dhanbad . |
| Dec 2026 | 21 | Mathematics: Chapter 12 Statistics + Full Syllabus Consolidation | Ch 12: graphical representation of data, grouped and ungrouped data interpretation, mean, median and mode-based real-life applications. Full-syllabus recap of Chapters 1–12 with higher-order, case-based and mixed practice. Portion boundary: Full syllabus completed by Dec 2026. | M9, M10, M12 | Data collection and graph drawing; central tendency calculations; full-syllabus revision sheets; error analysis and remedial worksheets. | December portion tested in Project RAIL on 12-01-2027 DIET Garhwa एवं DIET Giridih. |

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| | | | | | | |
|---|---|---|---|---|---|---|
| Jan 2027 | 18 | Full Revision + Sample Papers + Mathematical Modelling / Proof-based Practice | Complete revision of Chapters 1–12 through mixed problems, proof-based questions, graph work, constructions, mensuration and statistics. Focus on reasoning, speed and presentation for annual examination. | M1 to M12 | Weekly timed tests; chapterwise problem banks; geometry construction revision; peer discussion on solution methods. | Project RAIL (Full Syllabus) on 02-02-2027 DIET Hazaribag एवं DIET Jamtara. |
| Feb 2027 (Revision Month) | 19 | Full Revision: Chapters 1–12 + Annual Exam Preparation | Entire syllabus consolidation: numbers, algebra, coordinate geometry, geometry, mensuration and statistics. Focused revision through competency-based, short and long answer practice. | M1 to M12 | Mock papers; remedial support; chapterwise rapid revision sheets; mental mathematics and proof recap. | Annual Examination: 01-03-2027 to 05-03-2027 & 15-03-2027 to 20-03-2027 (full syllabus) |

| LO ID | LOs (*LO Mapping - IDs) (NCERT Secondary Stage LO-2017) |
|---|---|
| M1 | applies logical reasoning in classifying real numbers, proving their properties and using them in different situations. |
| M2 | identifies/classifies polynomials among algebraic expressions and factorises them by applying appropriate algebraic identities. |
| M3 | relates the algebraic and graphical representations of a linear equation in one or two variables and applies the concept to daily life situations. |
| M4 | identifies similarities and differences among different geometrical shapes. |
| M5 | derives proofs of mathematical statements particularly related to geometrical concepts, like parallel lines, triangles, quadrilaterals, circles, etc., by applying axiomatic approach and solves problems using them. |
| M6 | finds areas of all types of triangles by using appropriate formulae and apply them in real life situations. |
| M7 | constructs different geometrical shapes like bisectors of line segments, angles and triangles under given conditions and provides reasons for the processes of such constructions. |
| M8 | develops strategies to locate points in a Cartesian plane. |
| M9 | identifies and classifies the daily life situations in which mean, median and mode can be used. |
| M10 | analyses data by representing it in different forms like, tabular form (grouped or ungrouped), bar graph, histogram (with equal and varying width and length), and frequency polygon. |
| M11 | derives formulae for surface areas and volumes of different solid objects like, cubes, cuboids, right circular cylinders/ cones, spheres and hemispheres and applies them to objects found in the surroundings. |
| M12 | solves problems that are not in the familiar context of the child using above learning. These problems should include the situations to which the child is not exposed earlier. |

## QUESTION PAPER DESIGN / BLUEPRINT

### A. THEORY BLUEPRINT (SUGGESTED SCHOOL-READY)

| S.No. | Unit / Section / Chapter Block | Marks | Prescribed Chapters / Scope |
|---|---|---|---|
| 1 | Number Systems, Polynomials, Linear Equations | 24 | Chapter 1 Number Systems; Chapter 2 Polynomials; Chapter 4 Linear Equations in Two Variables. |
| 2 | Coordinate Geometry | 8 | Chapter 3 Coordinate Geometry. |
| 3 | Geometry | 24 | Chapter 5 Introduction to Euclid’s Geometry; Chapter 6 Lines and Angles; Chapter 7 Triangles; Chapter 8 Quadrilaterals; Chapter 9 Circles. |
| 4 | Mensuration | 12 | Chapter 10 Heron’s Formula; Chapter 11 Surface Areas and Volumes. |

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| | | | |
|---|---|---|---|
| 5 | Statistics and Probability | 12 | Chapter 12 Statistics. |
| | **TOTAL** | **80** | Suggested annual written paper. |

| **B. COMPETENCY-WISE QUESTION PAPER DESIGN** | |
|---|---|
| **Competency** | **Weightage** |
| Remembering & Understanding | 40% |
| Application | 35% |
| Analysis / Reasoning | 25% |
| **TOTAL** | **100%** |

| **C. QUESTION TYPOLOGY** | |
|---|---|
| **Component** | **Details** |
| Objective / VSA | Definitions, direct computation, identification of correct statements / steps. |
| Short Answer | Procedural questions, theorem-based explanation, graph / construction support. |
| Long Answer | Multi-step reasoning, proof / application / mensuration problems. |
| Internal Choice | To be kept as per school question paper pattern. |

| **D. INTERNAL ASSESSMENT / SCHOOL-BASED COMPONENTS** | | |
|---|---|---|
| **S.No.** | **Component** | **Marks** |
| 1 | Periodic Test | 5 |
| 2 | Multiple Assessment | 5 |
| 3 | Portfolio / Notebook | 5 |
| 4 | Mathematics Activities / Lab Work | 5 |
| | **TOTAL** | **20** |