CLASS 11 MATHEMATICS — LO's Aligned Monthly Split-up Syllabus (April 2026–March 2027) + Portion Boundaries + Exams + Weightage + Question Paper Design + Blueprint
(For CM SoE & Non-CM 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 Higher Secondary Stage LO - Draft)	Practicals / Activities (Minimum)	Assessment / Exams (प्रश्न पत्र एवं उत्तर कुंजिका निर्माण)
Apr2026 + May 2026 + Jun 2026		MATHS: Chapter 1 Sets (Complete); MATHS: Chapter 2 Relations and Functions (Complete); MATHS: Chapter 3 Trigonometric Functions (Start/Continue)	Chapter 1: sets and their representations; empty, finite and infinite sets; equal sets; subsets; subsets of real numbers especially intervals; universal set; Venn diagrams; union, intersection, difference and complement of sets. Chapter 2: ordered pairs; Cartesian product of sets; number of elements in Cartesian product of two finite sets; relation and function; domain, co-domain and range; real valued functions—constant, identity, polynomial, rational, modulus, signum, exponential, logarithmic and greatest integer functions; sum, difference, product and quotient of functions. Chapter 3 (start): positive and negative angles; radian and degree measure; trigonometric functions using unit circle; signs, domain, range and graphs; identities for sin(x±y), cos(x±y), tan(x±y), cot(x±y).	LO-MATH-XI-01, LO-MATH-XI-02, LO-MATH-XI-03	Math lab activity: represent sets through Venn diagrams and real-life collections. Activity: relation–function machine using input-output tables. ICT/GeoGebra: graphs of basic real-valued functions and trigonometric functions (intro) + unit-circle demonstration.	April to June portion tested in Project RAIL on 07-07-2026 DIET Hazaribag एवं DIET Jamtara
Jul 2026	14	MATHS: Chapter 3 Trigonometric Functions (Finish); MATHS: Chapter 4 Complex Numbers and Quadratic Equations (Start/Continue)	Chapter 3: identities related to sin2x, cos2x, tan2x, sin3x, cos3x and tan3x; general properties and simple applications. Chapter 4 (start/continue): need for complex numbers; algebraic properties of complex numbers; Argand plane; modulus and conjugate of a complex number; polar representation; solution of quadratic equations in the complex number system.	LO-MATH-XI-03, LO-MATH-XI-05	Activity: trigonometric identities verification through graphs/tables. Argand plane plotting practice for complex numbers. Worksheet on quadratic equations with real and complex roots.	July portion tested in Project RAIL on 04-08-2026 DIET Latehar एवं DIET Lohardaga
Aug 2026	12	MATHS: Chapter 4 Complex Numbers and Quadratic Equations (Finish); MATHS: Chapter 5 Linear Inequalities (Complete); MATHS: Chapter 6 Permutations and Combinations (Start)	Chapter 4: completion of polar representation and quadratic equations in the complex number system. Chapter 5: linear inequalities; algebraic solutions of linear inequalities in one variable and representation on number line. Chapter 6 (start): fundamental principle of counting; introduction to factorial notation; basic ideas of permutations.	LO-MATH-XI-05, LO-MATH-XI-06, LO-MATH-XI-07	Number-line activity for inequalities. Counting games using arrangements of letters/digits. Practice cards on factorials, permutations and inequality solving.	Half Yearly Exam: 07-09-2026 to 12-09-2026 (covers Jun–Aug).
Sep 2026	23	MATHS: Chapter 6 Permutations and Combinations (Finish); MATHS: Chapter 7 Binomial Theorem (Complete); MATHS: Chapter 8 Sequences and Series (Start)	Chapter 6: permutations and combinations; derivation of formulae for nPr and nCr and their connections; simple applications. Chapter 7: statement and proof of the binomial theorem for positive integral indices; Pascal's triangle; simple applications; general term. Chapter 8 (start): sequence and series; Arithmetic Mean; Geometric Progression; general term of a G.P.; sum of n terms of a G.P.	LO-MATH-XI-07, LO-MATH-XI-08, LO-MATH-XI-09	Pascal triangle construction and pattern recognition. Activity: arrangement/selection problems from daily life situations. Sequence-building exercises using patterns and simple G.P. models.	September portion tested in Project RAIL on 06-10-2026 DIET Ramgarh एवं DIET Ranchi
Oct 2026	22	MATHS: Chapter 8 Sequences and Series (Finish); MATHS: Chapter 9 Straight Lines (Complete); MATHS: Chapter 10 Conic Sections (Start/Continue)	Chapter 8: infinite G.P. and its sum; geometric mean; relation between A.M. and G.M. Chapter 9: slope of a line and angle between two lines; various forms of equations of a line—parallel to axis, point-slope, slope-intercept, two-point and intercept form; distance of a point from a line. Chapter 10 (start/continue): sections of a cone; circle, parabola, ellipse, hyperbola; degenerated conic sections; standard equation and simple properties of circle, parabola and ellipse.	LO-MATH-XI-09, LO-MATH-XI-10, LO-MATH-XI-11	Graph work: different forms of straight lines on coordinate plane. Conic-section models using paper cutting/cone slicing. GeoGebra activity on parabola and ellipse.	October portion tested in Project RAIL on 03-11-2026 DIET Simdega एवं DIET W-Singhbhum.
Nov 2026	14	MATHS: Chapter 10 Conic Sections (Finish); MATHS: Chapter 11 Introduction to Three-dimensional Geometry (Complete); MATHS: Chapter 12 Limits and Derivatives (Start/Continue)	Chapter 10: completion of hyperbola; simple properties of the standard conic sections. Chapter 11: coordinate axes and coordinate planes in three dimensions; coordinates of a point; distance between two points. Chapter 12 (start/continue): derivative as rate of change and geometrically; intuitive idea of limit; limits of polynomials and rational functions; limits of trigonometric functions; definition of derivative; derivative of sum, difference, product and quotient of functions of polynomial and trigonometric functions.	LO-MATH-XI-11, LO-MATH-XI-12, LO-MATH-XI-13	3D coordinate model using cuboid/axes. Graph-based exploration of limits and derivatives. Practice: tangent slope interpretation on simple curves.	November portion tested in Project RAIL on 08-12-2026 DIET Deoghar एवं DIET Dhanbad
Dec 2026	21	MATHS: Chapter 12 Limits and Derivatives (Finish); MATHS: Chapter 13 Statistics (Complete); MATHS: Chapter 14 Probability (Start/Continue)	Chapter 12: completion of limits and derivatives. Chapter 13: measures of dispersion—range, mean deviation, variance and standard deviation of ungrouped/grouped data. Chapter 14 (start/continue): events; occurrence of events; 'not', 'and' and 'or' events; exhaustive events; mutually exclusive events; axiomatic probability; probability of an event, probability of 'not', 'and' and 'or' events.	LO-MATH-XI-13, LO-MATH-XI-15, LO-MATH-XI-16	Data handling activity using local/school data to compute dispersion measures. Probability experiments with coins, dice and cards. Maths activities file completion and graph interpretation practice.	December portion tested in Project RAIL on 12-01-2027 DIET Garhwa एवं DIET Giridih

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Jan 2027	18	MATHS: Chapter 14 Probability (Finish); Full Mathematics Revision + Mathematics Activities File	Chapter 14: completion of axiomatic probability and related applications. Full syllabus wrap-up: Chapters 1–14; concept consolidation; theorem and formula recap; graph-based questions; exemplar-type practice; Mathematics Activities (internal assessment) review.	LO-MATH-XI-01, LO-MATH-XI-02, LO-MATH-XI-03, LO-MATH-XI-05, LO-MATH-XI-06, LO-MATH-XI-07, LO-MATH-XI-08, LO-MATH-XI-09, LO-MATH-XI-10, LO-MATH-XI-11, LO-MATH-XI-12, LO-MATH-XI-13, LO-MATH-XI-15, LO-MATH-XI-16	Maths lab consolidation: conics, straight lines, trigonometric graphs, statistics and probability activities. Full-length mixed worksheet + sample paper discussion. Mathematics Activities File completion and viva-type oral review.	Project RAIL (Full Syllabus) on 02-02-2027 DIET Hazaribag एवं DIET Jamtara
Feb 2027 (Revision Month)	19	Full Revision: Chapters 1–14 (NCERT) + Mathematics Activities + Sample Papers	Syllabus consolidation: sets, relations and functions, trigonometric functions, complex numbers, inequalities, counting principles, binomial theorem, sequences and series, coordinate geometry, limits and derivatives, statistics and probability; chapter-end exercises, exemplar-type items, sample papers and doubt resolution.	LO-MATH-XI-01, LO-MATH-XI-02, LO-MATH-XI-03, LO-MATH-XI-05, LO-MATH-XI-06, LO-MATH-XI-07, LO-MATH-XI-08, LO-MATH-XI-09, LO-MATH-XI-10, LO-MATH-XI-11, LO-MATH-XI-12, LO-MATH-XI-13, LO-MATH-XI-15, LO-MATH-XI-16	Revision worksheets; graph notebook check; mathematics activities/viva practice; peer-discussion on problem solving strategies and error analysis.	Annual Examination: 01-03-2027 to 05-03-2027 AND 15-03-2027 to 20-03-2027 - full syllabus
Mar 2027	20	Board Examination (continued, if applicable) / Post-exam Academic Support	Board examination continuation / light post-exam academic engagement, bridge work, reading / enrichment / record completion as applicable.		Bridge activities / portfolio / reading enrichment / feedback.	Post-exam school support (as applicable)

LO ID	LOs (*LO Mapping - IDs) (NCERT Higher Secondary Stage LO - Draft)
LO-MATH-XI-01	develops the idea of Set from the earlier learnt concepts in number system, geometry etc.
LO-MATH-XI-02	identifies relations between different sets.
LO-MATH-XI-03	relates earlier learnt concept of trigonometric ratios to functions and evolves the idea of trigonometric functions.
LO-MATH-XI-04	demonstrates deductive thinking by using technique of mathematical induction for establishing generalized mathematical statements.
LO-MATH-XI-05	extends the idea of real numbers to a larger system of complex numbers.
LO-MATH-XI-06	demonstrates strategies for solving systems of linear inequalities.
LO-MATH-XI-07	applies the ideas of permutations and combinations to daily life situations of arranging and grouping the objects.
LO-MATH-XI-08	develops the idea of Binomial theorem for a positive integral index from the earlier learnt concepts of finding squares and cubes of binomials.
LO-MATH-XI-09	extends the ideas related to Arithmetic progressions learnt earlier to new types of sequences and their series.
LO-MATH-XI-10	constructs different forms of a straight line using the earlier learnt concepts of coordinate geometry.
LO-MATH-XI-11	analyses different curves like circles, ellipses, parabolas and hyperbolas based on the ideas developed for straight lines using coordinates.
LO-MATH-XI-12	develops strategies of locating a point in three dimensions based on the concepts of two dimensional coordinate geometry.
LO-MATH-XI-13	evolves the concepts of limit and derivative of a function by analysing the behaviour of functions when the corresponding variable approaches a certain value.
LO-MATH-XI-14	relates deductive reasoning to the mathematical statements studied so far.
LO-MATH-XI-15	applies measures of dispersion to get a better interpretation of data of different daily life situations.
LO-MATH-XI-16	builds up the axiomatic approach to Probability through the terms random experiment, sample space, events etc.

QUESTION PAPER DESIGN / BLUEPRINT

A. THEORY BLUEPRINT

S.No.	Unit / Section Block	Marks	Prescribed Scope / Paper Component
1	Unit I	23	Sets and Functions
2	Unit II	25	Algebra
3	Unit III	12	Coordinate Geometry
4	Unit IV	8	Calculus
5	Unit V	12	Statistics and Probability
	TOTAL	80	Theory Paper

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B. TYPOLOGY OF QUESTIONS

S.No.	Category / Question Type	Marks	Weightage / Nature
1	Remembering & Understanding	44	55%
2	Applying	20	25%
3	Analysing / Evaluating / Creating	16	20%
	TOTAL	80	100%

C. INTERNAL / PRACTICAL / PROJECT

S.No.	Component	Marks	Remarks
1	Internal Assessment	20	As per Board / school norms

NOTES

• No chapter-wise weightage is prescribed; care is to be taken to cover all chapters.