Annual & Weekly Syllabus Split-Up - 2026-27

Grade XI

Subject: MATH (041)

S.No	Month	No. of Working Days		No. of Days	Topic	Sub Topic	Teaching Aids/Resources	Classroom teaching Video Link	Activities	Art Integrated project	Pedagogy Process/Teaching Strategy	Chapterwise Notes link	Assessment
1	APRIL	25	Week 1	4									
			Week 2	6									
			Week 3	5									
			Week 4	6									
			Week 5	4									
2	JUNE	20	Week 1	0									
			Week 2	6	SETS	Sets & its types	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Identify and classify sets from daily life; Convert between roster and set-builder form; Practice questions on types of sets	Create visual grouping patterns using objects/shapes; Artistic representation of sets using colors and symbols; Integration with real-life grouping	Child-centered teaching; Conceptual and experiential learning; Use of real-life examples; Think–Pair–Share; Focus on clarity of basic concepts	Resources (Worksheet + Mind Maps)	Worksheet + Quiz + Short answer questions
			Week 3	6		Venn diagram	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Draw and interpret Venn diagrams; Solve problems using set operations; Apply set concepts to real-life situations	Design colorful Venn diagram art; Create patterns using overlapping shapes; Integration with art and logical design	Visual and activity-based learning; Diagrammatic representation; Inquiry-based approach; Focus on logical reasoning and application	Resources (Worksheet + Mind Maps)	Worksheet + Oral + Case-based questions
			Week 4	6	Linear In equalities	Linear inequalities in one variable; Algebraic operations on inequalities; Graphical representation on number line; Word problems based on real-life situation	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Solve inequalities and represent on number line; Practice word problems; Compare solutions of equations vs inequalities	Create number line art showing solution regions; Design patterns using shaded intervals; Integration with visual representation and real-life constraints	Conceptual and application-based learning; Step-by-step problem solving; Use of number line visualization; Think–Pair–Share; Focus on inequality rules and sign change	Resources (Worksheet + Mind Maps)	Worksheet + Case-based questions + Short test

			Week 5	2	RELATION & FUNCTION	Definition of relation; Types of relations; Domain, codomain and range; Introduction to functions; Representation of functions (mapping, graph, set-builder form)	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Identify relations from real-life situations; Draw mapping diagrams; Find domain and range; Practice basic function problems	Create mapping diagrams using artistic patterns; Design relation networks using arrows and shapes; Integration with visual arts and logical structures	Conceptual and activity-based learning; Use of real-life examples; Visual representation through mapping diagrams and graphs; Think–Pair–Share; Focus on understanding relation vs function	Resources (Worksheet + Mind Maps)	Worksheet + Oral questions + Short test
3	JULY	27	Week 1	4	RELATION & FUNCTION	Definition of relation; Types of relations; Domain, codomain and range; Introduction to functions; Representation of functions (mapping, graph, set-builder form)	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Identify relations from real-life situations; Draw mapping diagrams; Find domain and range; Practice basic function problems	Create mapping diagrams using artistic patterns; Design relation networks using arrows and shapes; Integration with visual arts and logical structures	Conceptual and activity-based learning; Use of real-life examples; Visual representation through mapping diagrams and graphs; Think–Pair–Share; Focus on understanding relation vs function	Resources (Worksheet + Mind Maps)	Worksheet + Oral questions + Short test
			Week 2	6	Trignometric functions	Angles (degree & radian measure); Conversion between degree and radian; Trigonometric functions; Trigonometric ratios; Unit circle approach	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Convert angles between degree and radian; Identify trigonometric values using unit circle; Practice basic problems	Create unit circle art with angles and values; Design circular patterns using trigonometric ratios; Integration with visual arts	Conceptual and visual learning; Use of unit circle; Step-by-step explanation; Think–Pair–Share; Focus on understanding angle measure and ratios	Resources (Worksheet + Mind Maps)	Worksheet + MCQs + Short test
			Week 3	6	Trignometric functions	Trigonometric identities; Graphs of trigonometric functions (sin, cos, tan); Properties of trigonometric functions; Domain and range	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Verify identities; Plot graphs of trigonometric functions; Solve problems based on domain and range	Create wave-based art using sine and cosine curves; Design patterns using periodic functions; Integration with art and real-life wave patterns	Activity-based and graph-based learning; Visualization using graphs; Problem-solving approach; Think–Pair–Share; Focus on identities and graph interpretation	Resources (Worksheet + Mind Maps)	Worksheet + Graph-based questions + Case-based questions
			Week 4	6	Trignometric functions	Trigonometric identities; Graphs of trigonometric functions (sin, cos, tan); Properties of trigonometric functions; Domain and range	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Verify identities; Plot graphs of trigonometric functions; Solve problems based on domain and range	Create wave-based art using sine and cosine curves; Design patterns using periodic functions; Integration with art and real-life wave patterns	Child Centered teaching Pedagogy	Resources (Worksheet + Mind Maps)	Worksheet + Graph-based questions + Case-based questions

			Week 5	5	Complex Numbers	Definition of complex numbers; Real and imaginary parts; Algebra of complex numbers (addition, subtraction, multiplication); Modulus and conjugate of a complex number; Argand plane representation	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Perform operations on complex numbers; Plot complex numbers on Argand plane; Find modulus and conjugate; Practice problems	Create geometric patterns using Argand plane; Design artistic plots of complex numbers; Integration with visual arts and coordinate geometry	Conceptual and visual learning; Step-by-step operations; Use of Argand plane for representation; Think–Pair–Share; Focus on understanding imaginary unit and geometric interpretation	Resources (Worksheet + Mind Maps)	Worksheet + MCQs + Short test
4	AUGUST	24	Week 1	1		Definition of complex numbers; Real and imaginary parts; Algebra of complex numbers (addition, subtraction, multiplication); Modulus and conjugate of a complex number; Argand plane representation	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Perform operations on complex numbers; Plot complex numbers on Argand plane; Find modulus and conjugate; Practice problems	Create geometric patterns using Argand plane; Design artistic plots of complex numbers; Integration with visual arts and coordinate geometry	Child Centered teaching Pedagogy	Resources (Worksheet + Mind Maps)	Worksheet + MCQs + Short test
			Week 2	6	Permutation & combination	Permutation	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Daily life problem solving		Child Centered teaching Pedagogy	Resources (Worksheet + Mind Maps)	Worksheet + Oral questions + Short test
			Week 3	5	Permutation & combination	Fundamental principle of counting; Factorial notation; Permutations (arrangements); Combinations (selections); Difference between permutation and combination; Simple applications	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Solve real-life counting problems (seating, selection); Practice permutation and combination questions; Identify correct method (P or C)	Create pattern arrangements using objects; Design selection/arrangement-based art; Integration with real-life situations (grouping, seating plans)	Conceptual and application-based learning; Logical reasoning; Step-by-step counting techniques; Think–Pair–Share; Focus on understanding arrangement vs selection	Resources (Worksheet + Mind Maps)	Worksheet + MCQs + Case-based questions + Short test
			Week 4	6	REVIEW-1	Revision of completed chapters; Concept reinforcement; Doubt clearing; Important questions and previous year questions	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Solve mixed questions; Peer discussion; Quick quizzes; Identify common mistakes	Create mind maps summarizing chapters; Visual revision charts; Integration with creative representation	Revision-based learning; Discussion and doubt-solving sessions; Focus on weak areas; Think–Pair–Share; Concept strengthening	Resources (Worksheet + Mind Maps)	Worksheet + Oral questions + Short test

			Week 5	5+1	6 SAMPLE PAPERS		NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Solve sample papers in exam conditions; Analyze mistakes; Improve time management	Design summary sheets/formula charts; Creative presentation of key formulas	Exam-oriented practice; Time-bound problem solving; Self and peer evaluation; Focus on accuracy and speed	Resources (Worksheet + Mind Maps)	Worksheet + Oral questions + Short test
5	SEPTEMBER	23	Week 1	5							Child Centered teaching Pedagogy	Resources (Worksheet + Mind Maps)	Worksheet + Oral questions + Short test
			Week 2	6	**TERM-1**								
			Week 3	5									
			Week 4	5	Binomial Theorm	Introduction to binomial expressions; Expansion of (a + b)^n for positive integral n; General term in expansion; Binomial coefficients	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Expand simple binomials; Identify coefficients; Practice problems on general term	Create Pascal's Triangle art; Pattern design using coefficients; Integration with visual patterns	Conceptual learning; Pattern observation; Step-by-step expansion; Think–Pair–Share; Focus on understanding coefficients and structure	Resources (Worksheet + Mind Maps)	Worksheet + Case-based questions
			Week 5	3	Binomial Theorm	Properties of binomial coefficients; Middle term; Term independent of x; Simple applications of expansion	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Find middle term; Solve problems for specific term; Practice application-based questions	Design symmetric patterns using binomial coefficients; Artistic arrangement based on triangle patterns	Application-based learning; Logical reasoning; Problem-solving approach; Focus on identifying required term	Resources (Worksheet + Mind Maps)	Worksheet + Case-based questions
6	OCTOBER	25	Week 1	2	Binomial Theorm	Binomial expansion for negative and fractional indices (basic idea); Approximation using binomial theorem; Mixed practice and revision	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Solve approximation problems; Mixed practice questions; Peer discussion and doubt clearing	Create approximation-based designs; Visual representation of expansion patterns; Integration with real-life estimation	Higher-order thinking; Concept extension; Step-by-step approximation; Revision and reinforcement; Focus on application	Resources (Worksheet + Mind Maps)	Worksheet + Case-based questions
			Week 2	6	SEQUENCE & SERIES	Sequence and series basics; Arithmetic Progression (AP); nth term of AP; Sum of first n terms of AP	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Arithmetic Progression (AP) Game		Child Centered teaching Pedagogy	Resources (Worksheet + Mind Maps)	Worksheet + Oral questions + Short test

6	OCTOBER	25	Week 3	6	SEQUENCE & SERIES	Geometric Progression (GP); nth term of GP; Sum of finite GP; Relation between terms	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Identify patterns in sequences; Solve problems on nth term and sum; Real-life examples (stairs, rows)	Create staircase/rangoli patterns using AP; Artistic designs showing number progression	Conceptual and inductive learning; Pattern observation; Step-by-step derivation; Think–Pair–Share; Focus on understanding progression	Resources (Worksheet + Mind Maps)	Worksheet + MCQs + Short test
			Week 4	5	SEQUENCE & SERIES	Sum of infinite GP	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Solve GP problems; Identify geometric patterns; Practice real-life applications (growth, doubling)	Create spiral or growth-based designs; Artistic patterns using geometric growth	Conceptual and inductive learning; Pattern observation; Step-by-step derivation; Think–Pair–Share; Focus on understanding progression	Resources (Worksheet + Mind Maps)	Worksheet + MCQs + Short test
			Week 5	5	STRAIGHT LINES	Equation of lines in 2D	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		NCERT Textbook; NCERT Exemplar; CBSE PYQs; Worksheets; Mind Map	Higher-order thinking; Concept extension; Problem-solving approach; Revision and reinforcement; Focus on applicatio	Arithmetic Mean (AM), Geometric Mean (GM); Relationship between AM and GM; Mixed practice and revision	Resources (Worksheet + Mind Maps)	Solve problems on infinite GP; Find AM and GM; Mixed practice questions; Peer discussion
7	NOVEMBER	12	Week 1	0										
			Week 2	0										
			Week 3	0										
			Week 4	6	***Straight Lines***	Slope of a line; Equation of a line in various forms (point-slope, slope-intercept, two-point, intercept form); Angle between two lines; Conditions for parallel and perpendicular lines; Distance of a point from a line	NCERT , NCERT Exampler , JEE PYQs		Plot lines on graph paper; Find slope and equation of line; Solve problems on angle and distance; Identify parallel and perpendicular lines	Create coordinate-based designs using straight lines; Artistic patterns using intersecting lines; Integration with map design and architecture	Conceptual and graphical learning; Step-by-step derivation; Use of coordinate geometry; Think–Pair–Share; Focus on visualization and real-life application	Resources (Worksheet + Mind Maps)	Worksheet + Graph-based questions + Short test

			Week 5	5+1	**Conic sections**	Introduction to conic sections; Circle – standard equation and basic problems; Parabola – definition, focus, directrix, standard equation	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Explore locus using Desmos; Investigate parabola using focus-directrix; Compare algebraic and graphical forms; Solve problems	Create digital designs using parabolic curves; Model arches and bridges; Integration with architecture and visual arts	Inquiry-based and conceptual learning; Visualization using dynamic graphing tools; Concept building through exploration and pattern recognition; Think–Pair–Share; Focus on reasoning and interpretation	Resources (Worksheet + Mind Maps)	Worksheet + Graph-based questions + Short test
8	DECEMBER	21	Week 1	5	**Conic sections**	Ellipse – definition, standard equation, foci, major and minor axis; Hyperbola – definition, standard equation, asymptotes	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Use Desmos to vary parameters and observe curves; Investigate effect of eccentricity; Solve application-based problems	Create orbit-based designs using ellipse; Artistic hyperbola patterns; Integration with astronomy and design	Conceptual and analytical learning; Use of sliders and dynamic graphs; Comparative approach; Focus on interpretation, reasoning and connections	Resources (Worksheet + Mind Maps)	Worksheet + Graph-based questions + Short test
			Week 2	6	Conic sections	Properties and comparison of conic sections; Tangent and normal (basic idea); Mixed problems and revision	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Model real-life problems (paths, structures); Use Desmos for tangent visualization; Peer discussion and presentatio	Create combined conic designs; Digital patterns using multiple curves; Integration with engineering and design	Application-based and problem-solving approach; Real-life modelling; Student discussion and reflection; Focus on higher-order thinking and conceptual clarity	Resources (Worksheet + Mind Maps)	Worksheet + Graph-based questions + Short test
			Week 3	6	**Limits & Derivatives**	Concept of limits; Left-hand and right-hand limits; Evaluation of limits using algebraic methods; Standard limits	NCERT , NCERT Exampler , JEE PYQs		Explore limits graphically using Desmos; Evaluate limits numerically and algebraically; Identify continuity from graphs	Create graphical art showing curves approaching a point; Visual patterns of limits; Integration with dynamic graphs and design	Conceptual and inquiry-based learning; Visualization of approaching values using graphs; Step-by-step algebraic simplification; Think–Pair–Share; Focus on intuitive understanding of limits	Resources (Worksheet + Mind Maps)	Worksheet + MCQs + Concept-based questions
			Week 4	4	**Limits & Derivatives**	Definition of derivative as limit of difference quotient; Derivative of basic functions; Geometrical interpretation (slope of tangent); Introduction to differentiation rules	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Use Desmos to visualize tangent as limiting position of secant; Find derivatives of basic functions; Solve application problems	Create tangent-based designs; Patterns showing slope variation; Integration with curves and motion representation	Conceptual and visual learning; Linking limit to derivative; Graph-based interpretation of slope; Focus on reasoning and application; Student discussion	Resources (Worksheet + Mind Maps)	Numerical problems + Graph-based questions + Short test

			Week 5	3	**Limits & Derivatives**	Definition of derivative as limit of difference quotient; Derivative of basic functions; Geometrical interpretation (slope of tangent); Introduction to differentiation rules	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos; GeoGebra; Worksheets; Mind Maps		Use Desmos to visualize tangent as limiting position of secant; Find derivatives of basic functions; Solve application problems	Create tangent-based designs; Patterns showing slope variation; Integration with curves and motion representation	Conceptual and visual learning; Linking limit to derivative; Graph-based interpretation of slope; Focus on reasoning and application; Student discussion	Resources (Worksheet + Mind Maps)	Numerical problems + Graph-based questions + Short test
9	JANUARY	22	Week 1	0									
			Week 2	6	**Introduction to 3D**	Coordinate axes in three dimensions; Coordinates of a point in space; Distance between two points; Section formula in 3D (basic idea)	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos 3D; GeoGebra 3D; Worksheets; Mind Maps		Plot points in 3D using graphing tools; Find distance between points; Explore coordinates in different octants; Practice problems	Create 3D models using sticks/threads; Design cube/box structures; Integration with art, architecture and spatial design	Conceptual and visual learning; Spatial understanding using 3D visualization tools; Step-by-step explanation; Think–Pair–Share; Focus on connecting 2D to 3D geometry	Resources (Worksheet + Mind Maps)	Worksheet + MCQs + Short test
			Week 3	5	**Probablity**	andom experiments; Sample space; Events; Types of events (simple, compound, sure, impossible); Classical probability	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos 3D; GeoGebra 3D; Worksheets; Mind Maps		Perform experiments with coins, dice, cards; List sample space; Identify types of events; Solve basic probability problems	Design probability trees using colors/shapes; Create game boards based on outcomes; Integration with visual patterns and games	Conceptual and inquiry-based learning; Understanding through experiments; Visualization using tree diagrams; Think–Pair–Share; Focus on logical reasoning and interpretation	Resources (Worksheet + Mind Maps)	Worksheet + Oral questions + Short test
			Week 4	6	**Probablity**	Addition rule of probability; Complementary events; Conditional probability (basic idea); Simple applications	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos 3D; GeoGebra 3D; Worksheets; Mind Maps		Solve problems using addition rule; Represent events using Venn diagrams; Analyze real-life situations (games, weather)	Create artistic Venn diagrams; Design probability-based games; Integration with design and logical representation	Application-based and problem-solving approach; Use of Venn diagrams and tree diagrams; Focus on reasoning and real-life application; Student discussion	Resources (Worksheet + Mind Maps)	Worksheet + MCQs + Concept-based questions
			Week 5	5	**Statistics**	Measures of dispersion; Range, mean deviation, variance and standard deviation; Analysis and interpretation of data	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos 3D; GeoGebra 3D; Worksheets; Mind Maps		Collect real-life data (marks, heights); Calculate mean deviation and standard deviation; Compare datasets; Interpret results	Create data charts and visual representations; Design graphical patterns (bar graphs, histograms); Integration with real-life surveys and art	Conceptual and data-driven learning; Step-by-step calculation methods; Visualization using graphs; Think–Pair–Share; Focus on interpretation and real-life application	Resources (Worksheet + Mind Maps)	Worksheet + Numerical problems + Case-based questions + Short test

10	FEBRUARY	23	Week 1	6	**Review-2**	Comprehensive revision of all chapters; Concept reinforcement; Important formulas and key concepts; Previous year questions; Doubt clearing	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos 3D; GeoGebra 3D; Worksheets; Mind Maps		Solve mixed practice questions; Quick quizzes; Peer discussion; Identify common errors; Practice time-bound questions	Create summary charts and mind maps; Design formula sheets; Visual representation of key concepts; Integration with creative learning	Revision-based and student-centered learning; Discussion and doubt-solving sessions; Focus on weak areas; Think–Pair–Share; Emphasis on conceptual clarity and exam readiness	Resources (Worksheet + Mind Maps)	Worksheet + Oral questions + Short test
			Week 2	6	**Revision**	Comprehensive revision of all chapters; Concept reinforcement; Important formulas and key concepts; Previous year questions; Doubt clearing	NCERT Textbook; NCERT Exemplar; CBSE PYQs; Desmos 3D; GeoGebra 3D; Worksheets; Mind Maps		Create summary charts and mind maps; Design formula sheets; Visual representation of key concepts; Integration with creative learning	Solve mixed practice questions; Quick quizzes; Peer discussion; Identify common errors; Practice time-bound questions	Revision-based and student-centered learning; Discussion and doubt-solving sessions; Focus on weak areas; Think–Pair–Share; Emphasis on conceptual clarity and exam readiness	Resources (Worksheet + Mind Maps)	Worksheet + Oral questions + Short test
			Week 3	5	**ANNUAL EXAM**									
			Week 4	6										
			Week 5	NA										
11	MARCH	17	Week 1	5										
			Week 2	6										
			Week 3	6										
			Week 4	5										
			Week 5	3										