



Month	APRIL	MAY	JUNE	JULY
<b>Concepts</b>	Ch. 1 Sets Ch. 2 Relations and functions Ch. 3 Trigonometric functions	Ch. 3 Trigonometric functions (contd.) Ch. 4 Complex numbers Ch. 5 Linear inequalities	Ch. 6 Permutations and Combinations Ch. 7 Binomial distribution Theorem	Ch. 8 Sequences and series Ch. 9 Straight lines
<b>Learning Outcomes</b>	<p>Students will be able to</p> <ul style="list-style-type: none"> <li>Relate to sets and their representations, empty sets, finite and infinite sets, equal sets subsets.</li> <li>Venn diagrams</li> <li>Union and intersection and difference of sets.</li> <li>Complement of a set and properties of complement</li> <li>Relate to ordered pairs, Cartesian product of sets, number of elements in the Cartesian product of two finite sets.</li> <li>Definition of Relation, pictorial diagrams, domain, co-domain and range of a relation.</li> <li>Real valued functions, domain and range of these functions with their graphs</li> <li>Angles in radians and degrees. Domain and range of trigonometric functions with their graphs.</li> </ul>	<p>Students will be able to</p> <ul style="list-style-type: none"> <li>Relate to applications of various identities like <math>\sin(x+y)</math>, <math>\sin(x-y)</math>, <math>\cos(x+y)</math>, and <math>\cos(x-y)</math> etc.</li> <li>Also applications on identities like <math>\sin x + \sin y</math>, <math>\sin x - \sin y</math>, <math>\cos x + \cos y</math>, <math>\cos x - \cos y</math>.</li> <li>Identities related to <math>\sin 2x</math>, <math>\cos 2x</math>, <math>\tan 2x</math> ect.</li> <li>Relate to the need of complex numbers. Solving quadratic equations with complex roots.</li> <li>square root of -1 as i. Algebraic properties of complex numbers. Argand plane.</li> <li>Relate to the concept of linear inequalities.</li> <li>Algebraic solutions of linear inequalities in one variable and their representation on the number line.</li> </ul>	<p>Students will be able to</p> <ul style="list-style-type: none"> <li>Relate to the fundamental principle of counting. Factorial n.</li> <li>Concept of Permutations and combinations. Formula for them and their applications.</li> <li>Relate to the concept of the Binomial distribution theorem and its formula.</li> <li>Pascals triangle.</li> <li>Simple applications on the Binomial expansion.</li> <li>Simple applications on the general term of a binomial expansion.</li> </ul>	<p>Students will be able to</p> <ul style="list-style-type: none"> <li>Relate to the concept of Sequences and series.</li> <li>Arithmetic progression (A.P) and arithmetic mean (A.M.)</li> <li>Geometric progression (G.P) and Geometric mean (G.M.)</li> <li>General term of a G.P., sum of n terms of G.P., infinite G.P. and its sum.</li> <li>Relation between A.M. and G.M.</li> <li>Relate to a brief recall of 2D-geometry from earlier classes.</li> <li>Slope of a line and angle between two lines.</li> <li>Various forms of equation of a line: parallel to x-axis, point slope form, slope intercept form, two point form and intercept form.</li> <li>Distance of a point from a line.</li> </ul>
<b>Skills</b>	Academic and Life Skills / Logical and Analytical Thinking / Spatial and Visual Understanding.	Academic and Life Skills / Logical and Analytical Thinking.	Academic and Life Skills / Logical and Analytical Thinking.	Academic and Life Skills / Logical and Analytical Thinking.
<b>Activities</b>	<p><b>Competency-skill based activity/Experiential Learning:</b> To verify that for two sets A and B, <math>n(A \times B) = pq</math> and the total number of relations from A to B is <math>2^{pq}</math>, where <math>n(A) = p</math> and <math>n(B) = q</math>. <b>(Lab Manual)</b></p>	<p><b>Competency-skill based activity/Experiential Learning:</b> To verify that the graph of a given inequality, say <math>5x + 4y - 40 &lt; 0</math>, of the form <math>ax + by + c &lt; 0</math>, <math>a, b &gt; 0</math>, <math>c &lt; 0</math> represents only one of the two half - planes. <b>(Lab Manual)</b></p>	<p><b>Competency-skill based activity/Experiential Learning:</b></p> <ol style="list-style-type: none"> <li>To find the number of ways in which three cards can be selected from five cards.</li> <li>To construct a Pascal's Triangle and to write binomial expansion for a given positive integral exponent.</li> </ol> <p><b>(Lab Manual)</b></p>	<p><b>Competency-skill based activity /Experiential Learning:</b> To demonstrate that the Arithmetic mean of two different numbers is always greater than their Geometric mean. <b>(Lab Manual)</b></p>
<b>Art Integration</b>	Art, English	Art, English, Physics	Art, English	Art, English
<b>Assessment</b>	<ul style="list-style-type: none"> <li><b>Periodic Tests</b></li> <li><b>Multiple Assessments</b></li> <li><b>Student Enrichment Activities-practical work</b></li> </ul> <p><b>Main Book: NCERT</b></p>			



**Curriculum**  
**Subject- Mathematics (041)**  
**Class – XI**  
**Session – 2026-27**

Month	AUGUST/ SEPTEMBER	OCTOBER	NOVEMBER / DECEMBER
<b>Concepts</b>	Ch. 10 Conic sections Ch. 11 Three dimensional geometry	Ch. 12 Limits and Derivatives Ch. 13 Statistics	Ch. 14 Probability
<b>Learning Outcomes</b>	<p>Students will be able to</p> <ul style="list-style-type: none"> <li>Relate to sections of a cone: circles, parabola, ellipse, hyperbola, a point, a straight line and a pair of intersecting lines.</li> <li>Standard equations and simple properties of parabola, ellipse and hyperbola.</li> <li>Standard equation of a circle.</li> <li>Relate to the coordinate axes and coordinate planes in three dimensions.</li> <li>Coordinates of a point.</li> <li>Distance between two points.</li> </ul>	<p>Students will be able to</p> <ul style="list-style-type: none"> <li>Relate to the intuitive idea of limit.</li> <li>Limits of polynomials and rational functions, trigonometric, exponential and logarithmic functions.</li> <li>Definition of derivative and also introduce derivative as a rate of change. Also relate the concept of derivative to the slope of a tangent to a point on a curve.</li> <li>Derivative of sum, difference, product and quotient of functions.</li> <li>Derivatives of polynomial and trigonometric functions.</li> <li>Relate to the concept of measures of dispersion: Range, mean deviation, variance and standard deviation of grouped / ungrouped data.</li> </ul>	<p>Students will be able to</p> <ul style="list-style-type: none"> <li>Relate to the concept of Events, occurrence of events, 'not', 'and' and 'or' events, exhaustive events and mutually exclusive events.</li> <li>Relate to the Axiomatic probability with connections with other theories of earlier classes.</li> <li>Probability of an event.</li> <li>Probability of 'not', 'and' and 'or' events.</li> </ul>
<b>Skills</b>	Academic and Life Skills / Logical and Analytical Thinking / Spatial and Visual Understanding.	Academic and Life Skills / Logical and Analytical Thinking / Numeracy and Computational Skills..	Academic and Life Skills / Logical and Analytical Thinking.
<b>Activities</b>	Competency-skill based activity/Experiential Learning: To construct a parabola. (Lab Manual)	Competency-skill based activity/Experiential Learning: To find $f(x)$ when $f(x) = \frac{x^2-c^2}{x-c}$ (Lab Manual)	Competency-skill based activity/Experiential Learning: <ol style="list-style-type: none"> <li>To write the sample space, when a die is rolled once, twice, ...</li> <li>To write the sample space, when a coin is tossed once, twice, three times, four times.</li> </ol> (Lab Manual)
<b>Art Integration</b>	Art, English, Physics	Art, English, Physics	Art, English
<b>Assessment</b>	<ul style="list-style-type: none"> <li>Periodic Tests</li> <li>Multiple Assessments</li> <li>Student Enrichment Activities-practical work</li> </ul> <p><b>Main Book: NCERT</b></p>		