

NEW ERA SENIOR SECONDARY SCHOOL
MATHS SYLLABUS 20224-25
CLASS – X

MONTH & Days	CHAPTER
APRIL 21 + MAY 4	<p><u>Ch 1 Real Numbers</u></p> <ul style="list-style-type: none"> • Fundamental Theorem of Arithmetic • LCM and HCF of numbers using above properties. • Proofs of results - irrationality of $\sqrt{2}, \sqrt{3}, \sqrt{5}$ <p><u>Ch 2 POLYNOMIALS</u></p> <ul style="list-style-type: none"> • Zeros of a polynomial. • Graphical understanding of zeros of a polynomial. • Relationship between zeros and coefficients of a polynomial with particular reference to quadratic polynomials. <p><u>Ch 6 TRIANGLES</u></p> <p>Thales theorem , its converse and applications</p> <ul style="list-style-type: none"> • Definitions, examples, counter examples of similar triangles • (Prove) If a line is drawn parallel to one side of a triangle to intersect the other two sides in distinct points, the other two sides are divided in the same ratio. • (Motivate) If a line divides two sides of a triangle in the same ratio, the line is parallel to the third side. <p>Similarity of triangles, criteria of similarity and applications</p> <ul style="list-style-type: none"> • (Motivate) If in two triangles, the corresponding angles are equal, their corresponding sides are proportional then the triangles are similar. • (Motivate) If the corresponding sides of two triangles are proportional, then their corresponding angles are equal and the two triangles are similar. • (Motivate) If one angle of a triangle is equal to one angle of another triangle and the sides including these angles are proportional, the two triangles are similar.
JUNE 17	<p><u>Ch 3 PAIR OF LINEAR EQUATIONS IN TWO VARIABLES</u></p> <ul style="list-style-type: none"> • Pair of linear equations in two variables. Geometric representation of different possibilities of solutions: unique sol., no sol. & infinite sol. • Algebraic conditions for number of solutions. • Solution of pair of linear equations in two variables algebraically and graphically. • By substitution, by elimination and by cross multiplication. • Simple situational problems . <p><u>Ch 8 TRIGONOMETRIC RATIOS</u></p> <ul style="list-style-type: none"> • Trigonometric ratios of an acute angle of a right-angled triangle. Proof of their existence (well defined); • Motivating the ratios, whichever are defined at 0° & 90°.

	<ul style="list-style-type: none"> • Values (with proofs) of the trigonometric ratios of 30°, 45° & 60°. • Relationships between ratios. • TRIGONOMETRIC IDENTITIES Proof and applications of the identity • $\sin^2 A + \cos^2 A = 1$, $\sec^2 A = \tan^2 A + 1$, $\operatorname{cosec}^2 A = \cot^2 A + 1$
JULY 24	<p><u>Ch 9 APPLICATIONS OF TRIGONOMETRY</u></p> <ul style="list-style-type: none"> • Simple and believable problems on heights and distances. • Problems should not involve more than two right triangles. • Angles of elevation / depression should be only 30°, 45°, 60°. <p><u>Ch 13 STATISTICS</u></p> <ul style="list-style-type: none"> • Mean, median and mode of grouped data (bimodal situation to be avoided). <p><u>Ch 4 QUADRATIC EQUATIONS</u></p> <ul style="list-style-type: none"> • Standard form of a quadratic equation $ax^2 + bx + c = 0$, ($a \neq 0$). • Solution of the quadratic equations (only real roots) by factorization and by using quadratic formula. • Relationship between discriminant and nature of roots. • Problems related to day to day activities to be incorporated.
AUGUST 25	<p><u>Ch 5 ARITHMETIC PROGRESSIONS</u></p> <ul style="list-style-type: none"> • Motivation for studying AP (Examples from our day to day life.). • Derivation of standard results of finding the nth term and sum of first n terms of an AP. • Problems based on applications of above formulae. <p><u>Ch 10 CIRCLES</u></p> <ul style="list-style-type: none"> • (Prove) The tangent at any point of a circle is perpendicular to the radius through the point of contact. • (Prove) The lengths of tangents drawn from an external point to circle are equal .
SEPTEMBER 22	<p><u>Ch 11 AREAS OF PLANE FIGURES</u></p> <ul style="list-style-type: none"> • Area of a circle; area of sectors and segments of a circle. • Problems based on areas and perimeter / circumference of the above said plane figures. (In calculating area of segment of a circle, problems should be restricted to central angle of 60°, 90° & 120° only.)

<p>OCTOBER 19</p>	<p><u>Ch 7 COORDINATE GEOMETRY(In two-dimensions)</u></p> <ul style="list-style-type: none"> • Review the concepts of coordinate geometry done earlier including graphs of linear equations. • Distance between two points and section formula (internal). <p><u>Ch 12 MENSURATION (SURFACE AREAS AND VOLUMES)</u></p> <ul style="list-style-type: none"> • Problems on finding surface areas and volumes of combinations of any two of the following: cubes, cuboids, spheres, hemispheres and right circular cylinders/cones.
<p>NOVEMBER 12</p>	<p><u>Ch14 PROBABILITY</u></p> <ul style="list-style-type: none"> • Classical definition of probability. Connection with probability as given in Class IX. • Simple problems on single events, not using set notation.
<p>DECEMBER 23</p>	<p>Revision PREBOARD-1</p>
<p>JANUARY 24</p>	<p>PREBOARD-2</p>
<p>FEB. 21 + MARCH-11</p>	<p>Revision</p>