

June	4th & 5th	19, 21, 22, 23, 26, 27, 28	2. Relations and Functions.	2.1 Introduction 2.2 Cartesian Product of sets 2.3 Relations 2.4 Functions	1 2 3 5	<p>Able to:</p> <ul style="list-style-type: none"> Define ordered pair. Find Cartesian product of two sets and three sets. Define relation between two sets. Find domain, co domain and range of a relation. Depict the relation using an arrow diagram. Write relation in set builder and roster form. Define function. Identify the relation as a function. Find domain, co domain and range of a function. Understand and draw graph of some special type of function. Solve the problems based on algebra of real functions.
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July	1st, 2nd & 3rd	1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14	3. Trigonometric Functions	3.1 Introduction 3.2 Angles 3.3 Trigonometric Functions 3.4 Trigonometric Functions of sum and difference of two angles 3.5 Trigonometric Equations	1 2 5 6 4	<p>Able to :</p> <ul style="list-style-type: none"> Define angle, positive angle and negative angle. Understand degree measure and radian measure. Relate degree measure and radian measure. Establish the relation $Qc = l/r$ and use it to solve daily life problems. Understand the concept of trigonometrical function and their sign in all four quadrants. Find domain and range of trigonometric function. Draw the graph of trigonometric functions in certain quadrant when one trigonometrical function is given. Evaluate the trigonometrical functions of angle in the form of $(2n + 1)$ Evaluate the trigonometrical functions of angle in the form of $(2n + 1)$ Derive expressions for trigonometric functions of the sum and difference of two angles and related expressions Find the principle and general solution of trigonometrical equations.
July	4th, 5th & 6th	17, 18, 19, 20, 21, 22, 31	13. Limits and Derivatives	13.1 Introduction 13.2 Intutive idea of Derivatives 13.3 Limits 13.4 Limits of Trigonometric Functions 13.5 Derivatives	1 1 4 3 9	<p>Able to :</p> <ul style="list-style-type: none"> Identify the indeterminate form. Understand the concept of Right Hand Limit and Left Hand Limit. Verify the existence of limit. Evaluate the limits of algebraic function. Evaluate the limits of trigonometrical function. Find the derivative of a function from first principle. Find the derivative of a function at a point.

August	1st	1, 2, 3, 4, 5	4. Principle of Mathematical Induction.	4.1 Introduction 4.2 Mativation 4.3 The Principle of mathematical Induction.	1 1 6	Able to : Understand the concept of mathematical Induction. State the principle of mathematical induction. Use the concept of principle of mathematical induction to solve the given identities.
August	2nd, 3rd	7, 8, 10, 11, 12, 14				
August	3rd, 4th & 5th	16, 17, 18, 21, 22, 23, 24, 26, 28	5. Complex Number and Quadratic Equations	5.1 Introduction. 5.2 Complex Number 5.3 Algebra of Complex Numbers 5.4 The modulus and the conjugate of a complex number 5.5 Argand plane and Polar Representation 5.6 Quadratic Equations.	1 1 3 3 3 3	Able to : Define imaginary numbers. Understand complex number. Identify real and imaginary parts of complex number. Express the given any complex number in the form of $a+ib$ Use algebra of compex numbers. Find modulus, conjugate and multiplicative inverse of a complex number. Represent the given complex number in argand plane. Understand the geometrical meaning of modulus and conjugate of complex number. Find argument of complex number. Convert the complex number in polar form. Solve the quadratic equation whose roots are imaginary.

August	5th	29, 31	6. Linear Inequalities	6.1 Introduction. 6.2 Inequalities 6.3 Algebraic Soln of inequalities in one variable and their graphical representation 6.4 Graphical solution of linear Inequalities in two variables. 6.5 Graphical Solution of system of linear	1 1 4 2 3	Able to : Understand the concept of inequalities. Define linear inequalities in one and two variables. State rules for solving linear inequality. Solve linear inequation in one variable. Solve linear inequality in two variable graphically. Solve system of linear inequalities in two variables graphically. Formulate and solve different type of daily life problems based on linear inequalities of one and two variable.
September	1st & 2nd	1, 2, 4, 6, 8, 9	7. Permutations and Combinations.	7.1 Introduction. 7.2 Fundamental Principle of counting 7.3 Permutations 7.4 Combinations	1 3 7 7	Able to : State fundamental principle of counting and use it to solve different daily life problems. Understand and factorial notations. Define permutation and derive the formulae for the permutation of n distinct objects taking "r" at a time. Use the formulae of n pr to solve different types of problems. Find the permutation when all the objects are not distinct objects. Define combination and obtain the formulae for finding the number of combinations of n different objects r at a time (ncr). Establish the relation between npr and ncr Use concept of permutation and combination to solve daily life problems.
September	4th, 5th	20,21, 22, 23, 25, 26, 27, 29, 30				
October	1st	3, 4, 20	8. Binomial Theorem	8.1 Introduction. 8.2 Binomial Theorem for positive intearal	1 4 4	Able to : Understand the Pascal's triangle. Prove the binomial theorem for anv positive inteader n.

October	2nd	9, 10, 11, 12, 13, 14		for positive integral indices. 8.3 General and middle terms.	7	<p>Prove the binomial theorem for any positive integer n.</p> <p>Expand the given expression by using binomial theorem.</p> <p>Compute $(96)^3$, $(102)^3$, $(1.01)^{1000}$ etc by using binomial theorem.</p> <p>Find general and middle term in the expansion of $(a+b)^n$.</p> <p>Find the coefficient of x^r in the expansion of $(x+a)^n$ and solve word problem related with it.</p> <p>Find term independent of x in expansion like $(\frac{3}{2}x^2 - \frac{1}{3x})^6$.</p>
October	3rd, 4th & 5th	16, 17, 18, 19, 20, 26, 27, 30, 31	9. Sequences and Series	9.1 Introduction 9.2 Sequences 9.3 Series 9.4 Arithmetic Progression (A.P) 9.5 Geometric progression (G.P) 9.6 Relationship between A.M and G.M 9.7 Sum to n terms of special series.	1 1 2 6 6 2 5	<p>Able to :</p> <p>Define sequence and series.</p> <p>Find different terms if the sequence when it's nth term is given.</p> <p>Recall formulae of A.P and use it to solve problem based on A.P.</p> <p>Find arithmetic means between two given numbers.</p> <p>Define Geometric Progression.</p> <p>Derive the formulae of nth term of a G.P. and sum to n terms of a G.P.</p> <p>Solved problems based on nth term and sum of n terms of G.P.</p> <p>Find geometric means between two given numbers.</p> <p>Establish relationship between A.M and G.M</p> <p>Derive sum to n terms of special series (and solve problem based on it.</p> <p>To insert n A.M's between two given number.</p> <p>To insert n G.M's between two given number.</p>

Novemb er	2nd, 3rd & 4th	8, 9, 10, 11, 16, 17, 22, 23, 24	10. Straight Lines.	10.1 Introduction 10.2 Slope of a line 10.3 Various Forms of the equation of a line. 10.4 General Equation of a line. 10.5 Distance of a point from a line.	1 3 8 2 4	Able to : Recall distance formula, section formula, area of a triangle. Define angle of inclination and slope of a line. Find slope of a line when coordinates of two points on the line is given. Establish the condition for parallelism and perpendicularity in terms of their slope. Find angle between two lines. Prove co linearity of three points using slope of a line. Formulate various forms of equation of lines and solved problems based on it. Convert general equation of line in (a) slope – in respect form (b) intercept form (c) normal form. Find distance of a point from a line. Find distance between two parallel lines.
Novemb er	4th & 5th	25, 28, 29, 30				
Decemb er	1st, 2nd & 3rd	1, 4, 5, 6, 7, 8, 9, 11	11. Conic Sections	11. Introduction 11.2 Sections of a cone 11.3 Circle 11.4 Parabola 11.5 ellipse	1 1 3 3 3 3	Able to : Understand section of cone and obtain different kinds of conic sections i.e. Circle, parabola, ellipse and hyperbola, Define the equation of circle in standard form. Derive the equation of circle in standard form. Find the centre and radius from the given equation of circle

December	3rd & 4th	12, 13, 15, 18, 19, 20, 21, 22, 23		11.5 Ellipse 11.6 Hyperbola	0	<p>Find the centre and radius from the given equation of circle.</p> <p>Find the equation of circle under given different conditions.</p> <p>Define parabola and derive the equation in standard form.</p> <p>Find the coordinate of focus and vertex, equation of axis and directrix and length of latus rectum from the standard equation of parabola.</p> <p>Find the equation of parabola under given geometrical condition.</p> <p>Define ellipse and derive the equation in standard form.</p> <p>Find the coordinate of foci and vertices, length of major and minor axis, eccentricity and length of latus rectum.</p> <p>Find the equation of ellipse under given conditions.</p> <p>Define hyperbola and derive the equation of hyperbola in standard form.</p> <p>Find the coordinate of foci and vertices, length of conjugate and transverse axis, eccentricity and length of lotus rectum from the given equation of hyperbola in standard form.</p> <p>Apply the concept of conic sections to solve different day to day life problems.</p>
January	1st	1, 2, 3, 4, 5	12. Introduction to three Dimensional Geometry	12.1 Introduction 12.2 Coordinate axes and coordinate planes in three Dimensional space. 12.3 Coordinates of a point in space. 12.4 Distance between two points. 12.5 Section Formula	1 1 1 2 2	<p>Able to:</p> <p>1 Understand Coordinate axis and Coordinate plane and octants in three dimensional space.</p> <p>1 Define the Coordinates of a point in space.</p> <p>2 Name the octants in which the point lies.</p> <p>Find distance between two points.</p> <p>Use section formula to find coordinate of a point.</p> <p>Find the coordinate of centroid of a triangle.</p>

January	2nd, 3rd & 4th	12, 13, 16, 17, 18, 19, 23, 24	16. Probability	16.1 Introduction 16.2 Random Experiments 16.3 Event 16.4 Axiomatic Approach to Probability	1 2 3 6	Able to: Understand random experiment. Describe the sample space for the given random experiment. Define an event. Classify the different types of event. Describe probability of an event through axiomatic approach. Find the probability of an event. Find the probability of the event 'A' or event 'B'. Find the probability of the event 'not A'.
January	4th & 5th	25, 27, 29, 30, 31	15. Statistics	15.1 Introduction. 15.2 Measures of Dispersion 15.3 Range 15.4 Mean Deviation. 15.5 Variance and Standard Deviation 15.6 Analysis of Frequency Distributions.	1 1 3 3 3	Able to : Find the mean deviation about the mean for an ungrouped data and grouped data. Find the mean deviation about the median for an ungrouped data and grouped data. Find the variance and standard deviation for an ungrouped and grouped data. Analyse the frequency distribution.
February	1st	1, 2, 200	14. Mathematical Reasoning	14.1 Introduction 14.2 Statements 14.3 New statements	1 1 1	Able to: Identify the statement. Write the negation of the statement

Februar y	2nd	5, 6, 7, 8, 9	Reasoning	14.3 New Statements from old. 14.4 Special Words/Phrases 14.5 Implications 14.6 Validating Statement.	1 2 2	write the negation of the statement. Find the component statement of the given compound statements. Identify the connecting words from the given compound statement. Find the contra positive and the converse of a given statements. Validate the given statement by different methods.
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