

Year & Sem: P1S1	Course Code: M112	Course Name: Mathematics	No. of Credits: 4	L-T-P: 2-2-0
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Syllabus

UNIT-I: SETS

Set Concept, Set Operations, Algebra of Sets, Cartesian product of Sets.

UNIT-II: LINEAR INEQUATIONS

Real line, Linear Inequations in one variable, Inequations involving Absolute values, System of linear Inequations.

UNIT-III: RELATIONS AND FUNCTIONS

Relations, Introduction to functions, Types of functions, Inverse functions, Graphs of functions, Exponential function, Logarithmic function, Exponential equation.

UNIT-IV: TRIGONOMETRIC FUNCTIONS

Angles and coordinate Lines, Trigonometric functions of acute angles, Trigonometric functions of General angles, Graphs of Trigonometric functions, Reductions to Functions of positive acute angles, Trigonometric functions of two angles, Trigonometric functions of multiple angles, Trigonometric functions of Sub-Multiple angles, Inverse Trigonometric functions, Transformation Formulas, Conditional Trigonometric Identities, Trigonometric Equations, Relation between the Angles and Sides of a triangle.

Unit-V: COMPLEX NUMBERS

Concept of Complex Numbers, Algebra of Complex Numbers, Complex Plane, Polar Form.

UNIT-VI: STRAIGHT LINES

Pre-requisites: Cartesian Coordinates, Locus, Transformation of axes and Rotation of axes. Slope of a line, Various forms of equation of a line, Parallel and perpendicular lines, General equation of a line, Distance of a point from a line, Family of lines.

References:

1. KHAN ACADEMY WEBSITE
2. TELUGU ACADEMI and NCERT First and Second year Textbooks (IA, IB, IIA, IIB)
3. THOMAS' CALCULUS OF EARLY TRANSCENDENTALS 12th Edition, George B. Thomas, Jr, Maurice D. Weir, Joel Hass