MATHEMATICS

PART - I 100
PART – II 100
TOTAL: 200

Marks: 100	PART –I (CLASS-XI)	Time: 3:00 Hours

UNIT-1 Complex Numbers
1.1 Complex Numbers
1.2 Equality of Two Complex Numbers
1.3 Complex Polynomials as a Product of Linear Factors
1.4 Three Cube Roots of Unity /Polar Coordinates System
1.5 Complex Numbers in the Real World
UNIT-2 Functions and Graphs
2.1 Concept of Function
2.2 Finding the Intersecing Point(s) Graphically
2.3 Graph of the Square Root Function
2.4 Graph of the Cube Root Function
2.5 Real Life Applications
UNIT-3 Theory of Quadratic Functions
3.1 Quadratic Function
3.2 Inverse of Quadratic Function
3.3 Absolute Value
3.4 Solutions of Equations Reducible to the Quadratic Equation
3.5 Real World Problems of Quadratic Equations and Inequalities
UNIT-4 Matrices and Determinants
4.1 Matrix
4.2 Matrix Operations
4.3 Properties of Matrix Addition, Scalar Multiplication and Matrix Multiplication
4.4 Determinants
4.5 Adjoint and Inverse of a Square Matrix
4.6 Elementary Row Operations on a Matrix
4.7 Echelon and Reduced Echelon Forms of Matrices
4.8 System of Non-Homogeneous Linear Equations
4.9 System of Homogeneous Linear Equations
4.10 Apllications of Matrices in Real World
UNIT-5 Partial Fractions
5.1 Rational Fraction
UNIT-6 Sequences and Series
6.1 Sequence
6.2 Arithmetic Progression or Arithmetic Sequence (A.P)
6.3 Arithmetic Mean (A.M)
6.4 Series
6.5 Geometric Progression (G.P)
6.6 Geometric Mean (G.M.)
6.7 Geometric Series
6.8 Arithmetico-Geometric Progression (A.G.P.)
6.9 Harmonic Progression (H.P)
6.10 Miscellaneous Series
6.11 Real Life Problems involving Sequences and Series
UNIT-7 Permutations and Combinations
7.1 Fundamental Principle of Counting
7.2 Permutations
7.3 Permutation of Objects Not All Different
7.4 Combinations
UNIT-8 Mathematical Inductions and Binomial Theorem
8.1 Principle of Mathematical Induction
8.2 Binomial Theorem

Authors:
1. Prof. Shamshad Muhammad Lodhi(late)
2. Prof. Muhammad Amin Chaudhary
3. Prof. Sanaullah Bhatti(late)
4. Prof. Muhammad Sharif Ghori(late)
5. Prof.Khalid Saleem

(Authors) Aligned with Revised/ Updated NCP-2023 by:
1. Dr.Malik Anjum Javed,HED, Lahore
2. Dr. Muhammad Idrees, UOE
3. Muhammad Akhtar Shirani,SSS PECTAA
4. Ghulam Murtaza, SSS PECTAA
5. Ms. Madiha Mehmood, SSS PECTAA
6. Dr. Shahid Mubeen, BGNU

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