Basic Maths Course Outline

S. No.	TOPICS	SUB-TOPICS
CHAPTER-1	**Numbers and Number System**	Why do we need numbers?
		Types of numbers
		Representation of numbers on a number line
		Binary Number System
		Conversion: Decimal to Binary & viceversa
CHAPTER-2	**Factorization of Numbers**	What are the Factors of a number?
		HCF and LCM
		Even and Odd numbers
		Prime and Composite numbers
CHAPTER-3	**Mathematical Computations**	BODMAS Rule
		Power of a number and its roots
		What is Remainder, Dividend, Divisor, and Quotient?
CHAPTER-4	**Number Series**	Fibonacci Number Series
		What is factorial and how to compute it?
		Arithmetic Progression(AP) and Geometric Progression(GP)
CHAPTER-5	**Sets**	Venn Diagram
		Intersection, Union, Subset, Superset

		Set difference
		Systematic difference of a set
CHAPTER-6	**Ratio and Proportion**	Ratio Meaning
		Definition of Proportions
		Important Properties of Proportions
		Difference between Ratio and Proportions
CHAPTER-7	**Percentage and Percentile**	Why do we need a Percentage?
		How to calculate Percentage?
		What is Percentile?
		How to calculate Percentile?
		Difference/Use of Percentage and Percentile
CHAPTER-8	**Profit and Loss**	What is the Cost Price?
		What is the Selling Price?
		What is MRP?
		Profit and Loss
		Discount and Premium
		True Discount
		Annualized Growth Rate(AGR)
CHAPTER-9	**Simple Interest and Compound Interest**	What do you mean by Simple Interest?
		What is Compound Interest?
		Difference between SI and CI
CHAPTER-10	**Perimeter and Surface Area**	Triangle

		Circle
		Square
		Rectangle
CHAPTER-11	**Volume**	How to find the Volume of a Sphere?
		Cylinder
		Cone
		Cube
CHAPTER-12	**Scalar and Vector Quantities**	Definition of Scalar & Vector quantities
		Comparison of Scalar & Vector
		Characteristics of Vectors
CHAPTER-13	**Algebra**	Introduction to Algebra
		Solving basic equations & inequalities (one variable & linear)
		Two-variable linear equations
		Quadratic equations and their roots
CHAPTER-14	**Matrices**	Introduction to matrices
		Types of Matrices
		Operations on Matrices
		Transpose of a Matrix
		Symmetric and Skew Symmetric Matrices
CHAPTER-15	**Permutation and Combination**	Definition of Permutation and Combination
		Basic Formulas to calculate it

CHAPTER-16	**Probability**	Introduction to Probability
CHAPTER-17	**Measures of Central Tendency**	Mean
		Median
		Mode
CHAPTER-18	**Basics of Statistics**	Normal Distribution
		IQR (Inter Quartile Range)
		Outliers
		Standard Deviation
		Variance