



Course Weekly Outline

Week No.	Theoretical
1	Algebraic Preliminaries: Numbers, Sets
2	Algebraic Preliminaries: Inequalities & Absolute value.
3	Functions: Domain, Range, graphs,
4	Functions: Symmetry, Asymptotes
5	Limits: Definition of Limit, Theorems,
6	Continuity, One-Sided Limits,
7	Limits at Infinity, L Hopital's rule.
8	Derivatives: Definition, Power and Sum Rules, Product and Quotient Rules,
9	Derivatives: Chain rule, High-Order derivatives, Implicit differentiation.
10	Applications of Derivative: Maximum and minimum, mean value theorem,
11	Applications of Derivative: Increasing and Decreasing Functions, Concavity and Points of inflection, Second Derivative Test.
12	Definite Integration: Definition, Integral Theorems, Length of a Curve, Areas
13	Definite Integration: Volume of Solids, Surface Area, Indefinite Integrals.
14	Transcendental Functions: Trigonometric Functions, Graphs, Derivatives of trigonometric functions, Inverse trigonometric functions, Graphs
15	Derivatives of Inverse trigonometric functions, Natural Logarithm Functions, Exponential Functions, Functions a^u and $\log_a u$.