

Mathematics

CC - 1 (Common Core Course - 1): Theory – “Differential Calculus”

Block - I : Limits and Continuity

- Unit - 1 : Limits and Continuity
- Unit - 2 : Differentiability of a Function
- Unit - 3 : Methods of Differentiation

Block - II : Successive and Partial Differentiation

- Unit - 4 : Successive Differentiation - Leibnitz's Theorem
- Unit - 5 : Partial Differentiation - Euler's Theorem on Homogeneous Functions
- Unit - 6 : Mean Value Theorems

Block - III : Applications of Differentiation

- Unit - 7 : Taylor's Theorem with Lagrange's and Cauchy's forms of Remainder
- Unit - 8 : Indeterminate Forms : L - Hospital's Rule
- Unit - 9 : Applications of Differentiation - I
(Errors , Approximations, Tangent and Normal)

Block - IV : Curvature and Curve Tracing

- Unit -10 : Applications of Differentiation - II
(Curvature, Maxima and Minima)
- Unit -11 : Asymptotes and Singular Points
- Unit -12 : Curve Tracing

Core Course -1: Practical – “Differential Calculus”

Block - I : Limits, Continuity and Differentiability ; Partial Differentiation

- Unit - 1 : Limits and Continuity
- Unit - 2 : Differentiability of a Function
- Unit - 3 : Leibnitz's Theorem and Mean Value Theorems
- Unit - 4 : Partial Differentiation

Block - II : Applications of Differentiation and Curve Tracing

- Unit - 5 : Taylor's Theorem
- Unit - 6 : Indeterminate Forms : L - Hospital's Rule
- Unit - 7 : Applications of Differentiation
- Unit - 8 : Curve Tracing