Applied Mathematics –I	E201
Prerequisite : E102	(3-3-1-0)

Partial Derivatives: Functions of Several Variables. Limits and Continuity in Higher Dimensions. Partial Derivatives. The Chain Rule. Directional. Derivatives and Gradient Vectors. Tangent Planes and Differentials. Extreme Values and Saddle Points. Lagrange Multipliers. Taylor's Formula for Two Variables. Partial Derivatives with Constrained Variables. Multiple Integrals: Double and Iterated Integrals over Rectangles. Double Integrals over General Regions. Area by Double Integration. Double Integrals in Polar Form. Triple Integrals in Rectangular Coordinates. Triple Integrals in Cylindrical and Spherical Coordinates. Substitutions in Multiple Integrals. Integration in Vector Fields: Line Integrals. Vector Fields and Line Integrals: Work, Circulation, and Flux. Path Independence, Conservative Fields, and Potential Functions. Surfaces and Area. Surface Integrals.