

Course Content for Mid-Term -II Exam

Content/Topics	Question set
Directional Derivatives and Gradients: Directional Derivatives, Gradients, Properties of gradients, Gradients are normal to level curves.	Ex13.6 [1-45,53-66]
Tangent Planes and Normal Vectors: Tangent Planes and Normal Vectors	Ex13.7 [3-12]
Extreme value of the function of two variables: Absolute & Relative Extrema, Extreme Value theorem, The second order Partial's test Lagrange Multipliers Method: Constrained Maxima and Minima by Lagrange multipliers	Ex13.8 [1,2, 9-18, 31-40] Ex 13.9 [5-12]
Multiple Integral: Double Integrals, Fubini's theorem Gradient Descent Algorithm (Material will be provided)	Ex 14.1 [1-16]