B. Sc. SEM I (Mathematics)

M-2: Differential and Integral Calculus

Unit I

Leibnitz's theorem

https://www.youtube.com/watch?v=WX6O9TiFYsA&list=PLU6SqdYcYsfIJRl8mo2Rv1MpdvmVD0YyI

Maclaurin's and Taylor's theorems

https://www.youtube.com/watch?v=WX6O9TiFYsA&list=PLU6SqdYcYsfIJRl8mo2Rv1MpdvmVD0YyI

Indeterminate forms

https://www.youtube.com/watch?v=WX6O9TiFYsA&list=PLU6SqdYcYsfIJRl8mo2Rv1MpdvmVD0YyI

Unit II

Functions of two variables and its geometrical representation, Limit and continuity of functions of two variables

https://www.youtube.com/watch?v=WX6O9TiFYsA&list=PLU6SqdYcYsfIJRl8mo2Rv1MpdvmVD0YyI

Partial derivatives, Homogeneous functions, Theorems on total differentials, Composite functions, Differentiation of composite functions (without proof), Equality of mixed partial derivatives

https://www.youtube.com/watch?v=WX6O9TiFYsA&list=PLU6SqdYcYsfIJRl8mo2Rv1MpdvmVD0YyI

 Asymptotes, Envelopes.

https://www.youtube.com/watch?v=WX6O9TiFYsA&list=PLU6SqdYcYsfIJRl8mo2Rv1MpdvmVD0YyI

Unit-III

Jacobians and its properties

https://www.youtube.com/watch?v=WX6O9TiFYsA&list=PLU6SqdYcYsfIJRl8mo2Rv1MpdvmVD0YyI

Taylor's series of two variables

https://www.youtube.com/watch?v=WX6O9TiFYsA&list=PLU6SqdYcYsfIJRl8mo2Rv1MpdvmVD0YyI

 Maxima and Minima of function of two variables

https://www.youtube.com/watch?v=WX6O9TiFYsA&list=PLU6SqdYcYsfIJRl8mo2Rv1MpdvmVD0YyI

Lagrange's method of multiplier.

https://www.youtube.com/watch?v=WX6O9TiFYsA&list=PLU6SqdYcYsfIJRl8mo2Rv1MpdvmVD0YyI

Unit IV

Reduction formulae

https://www.youtube.com/watch?v=WX6O9TiFYsA&list=PLU6SqdYcYsfIJRl8mo2Rv1MpdvmVD0YyI

 Integration of algebraic rational functions, Integration of trigonometric functions, Integration of irrational functions

https://www.youtube.com/watch?v=WX6O9TiFYsA&list=PLU6SqdYcYsfIJRl8mo2Rv1MpdvmVD0YyI

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