


Syllabus for Mid Exam [2023-24]


Unit-3: Matrices


- Matrices & Determinants with Properties
- Linear Independence
- Rank of Matrix, System of Linear Equations
- Consistency of System
- Solution of system of Linear Equations by Gauss Jordan and Gauss-Elimination Method
- Eigen values, Eigenvectors
- Symmetric, Skew-symmetric, and orthogonal Matrices
- Eigen bases, Diagonalization
- Cayley Hamilton Theorem and its applications
- Quadratic form


Unit-6: Multivariable Calculus

- Functions of Several Variables
- Limit and Continuity of functions of Several Variables
- Partial Derivatives
- Homogeneous function
- Euler's Theorem for homogeneous function
- Modified Euler's Theorem
- Chain Rule
- Implicit function
- Jacobian
- Tangent plane and Normal line
- Maximum and Minimum Values
- Lagrange's Multiplier
- Taylor's and Maclaurin's Series for functions of two variables


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