

Sr. No.	Lecturer/Lab	Name of the topic	%Syllabus Covered	Date of topic
1	Week-1 1,2,3	Matrices, Rank of a matrix, elementary transformations, elementary matrices.		
2		Inverse using elementary transformations, normal form of a matrix.		
3	Week-2 1,2,3	Consistency of System of linear equations, linear dependence, independence of vectors.		
4		Linear transformations (maps)		
5	Week-3 1,2,3	Matrix associated with a linear map and linear map associated with a matrix.		
6		Cramer's Rule, Gauss elimination and Gauss-Jordan elimination methods.		
7	Week-4 1,2,3	Eigenvalues, eigenvectors, symmetric, skew-symmetric, and orthogonal Matrices,		
8		Eigen bases. Properties of eigen values.		
9	Week-5 1,2,3	Cayley-Hamilton Theorem and its applications.		
10		Diagonalization of matrices; orthogonal set, orthonormal set of vectors.		
11	Week-6 1,2,3	Functions of two or more variables, partial derivatives.		
12		Total derivative.		
13	Week-7 1,2,3	Derivative of composite and implicit functions.		
14		Homogeneous functions, Euler's theorem.		
15	Week-8 1,2,3	Definition of definite integrals and their problems		
16		Improper integrals and some problems		
17	Week-9 1,2,3	Beta and Gamma functions and their properties.		
18		Relation between Beta and Gamma function,		
19	Week-10 1,2,3	Reduction formula for Gamma function.		
20		Applications of definite integrals to evaluate surface areas and volumes of revolutions in Cartesian coordinates.		
21	Week-11 1,2,3	Rolle's theorem, Lagrange's mean value theorem, Cauchy mean value theorem.		
22		Taylor's and Maclaurin theorems with remainders.		
23	Week-12 1,2,3	Indeterminate forms and L'Hospital's rule.		
24		Maxima and Minima		
25	Week-13 1,2,3	Jacobian, Taylor's and Maclaurin's theorem for function of two variables.		
26		Maxima, minima and saddle points of functions of two variables.		
27	Week-14 1,2,3	Method of Lagrange multipliers,		
28		Differentiation under the integral sign.		
29	Week - 15	Query and Solution		