

VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY, BURLA**LESSON PLAN****Semester: I****Subject-Mathematics-I****Session: 2016-17****Theory****Branch/Course: B. Tech. (All Branches)****Name of Faculty:**

Period	Module/ Number	Topic to be covered	Remarks
1	I	Open sets	
2	I	Closed sets, Limit points of a set	
3	I	Limits and Continuous functions	
4	I	The derivative, Increasing and decreasing functions	
5	I	Darboux's theorem, Rolle's theorem	
6	I	Lagrange's mean value theorem and Cauchy's mean value theorem, Extremum values	
7	I	Riemann integral: Definition and existence of the integral	
8	I	Integral as a limit of sums, some integrable functions	
9	I	Fundamental theorem of calculus	
10	I	Mean value theorems for integral calculus	
11	II	Vectors: Addition and Scalar Multiplication, Matrix Multiplication	
12	II	Linear Systems of Equations, Gauss Elimination	
13	II	Linear Independence, Rank of a Matrix	
14	II	Vector Space,	
15	II	dimension and basis	
16	II	Solutions of Linear Systems: Existence, Uniqueness	
17	II	Solutions of Linear Systems: Existence, Uniqueness	
18	II	Determinants, Cramer's Rule	
19	II	Gauss-Jordan Elimination	
20	II	Inner Product Spaces	
21	III	Eigen values, Eigenvectors	
22	III	Some Applications of Eigen value Problems	
23	III	Symmetric, Skew-Symmetric, and Orthogonal Matrices	
24	III	Eigen bases, Diagonalization	
25	III	Quadratic Forms	
26	III	Complex Matrices and Forms	
27	III	Inclusion of Matrix Eigen values	
28	III	Inclusion of Matrix Eigen values	
29	III	Power Method for Eigen values	
30	III	Power Method for Eigen values	

31	IV	Numerical methods in general, Introduction	
32	IV	Solution of Equations by Iteration	
33	IV	Solution of Equations by Iteration	
34	IV	Interpolation	
35	IV	Interpolation	
36	IV	Interpolation	
37	IV	Numerical Integration	
38	IV	Numerical Integration	
39	IV	Numerical Differentiation	
40	IV	Numerical Differentiation	