

Hour	Unit	Topic	Teaching Methodology	Remarks
1	I	Rank of a Matrix by Echelon Form	Whiteboard	
2	I	Rank of a Matrix by Normal Form	Whiteboard	
3	I	Inverse of Non-Singular Matrices by Gauss-Jordan Method	Whiteboard	
4	I	System of Linear Equations – Introduction	Whiteboard	
5	I	Solving Homogeneous Equations by Gauss Elimination	Whiteboard	
6	I	Solving Non-Homogeneous Equations by Gauss Elimination	Whiteboard	
7	I	Gauss-Seidel Iteration Method	Whiteboard	
8	I	Practice Problems on Systems of Equations	Whiteboard	
9	II	Eigenvalues and Eigenvectors – Definitions	Whiteboard	
10	II	Properties of Eigenvalues and Eigenvectors	Whiteboard	
11	II	Diagonalization of a Matrix	Whiteboard	
12	II	Cayley-Hamilton Theorem (Statement)	Whiteboard	
13	II	Finding Inverse by Cayley-Hamilton Theorem	Whiteboard	
14	II	Finding Power of a Matrix by Cayley-Hamilton	Whiteboard	
15	II	Quadratic Forms – Introduction & Nature	Whiteboard	
16	II	Reduction of Quadratic Forms to Canonical Form	Whiteboard	
17	III	Mean Value Theorems – Rolle's Theorem	Whiteboard	
18	III	Lagrange's Mean Value Theorem & Geometrical Interpretation	Whiteboard	
19	III	Cauchy's Mean Value Theorem	Whiteboard	
20	III	Taylor's Theorem with Remainder	Whiteboard	
21	III	Maclaurin's Theorem with Remainder	Whiteboard	
22	III	Applications and Problems on the Theorems	Whiteboard	
23	IV	Partial Derivatives and Total Derivatives	Whiteboard	
24	IV	Chain Rule	Whiteboard	
25	IV	Change of Variables	Whiteboard	
26	IV	Taylor's Series Expansion for Two Variables	Whiteboard	
27	IV	Maclaurin's Series Expansion for Two Variables	Whiteboard	

28	IV	Jacobians – Introduction and Calculation	Whiteboard	
29	IV	Maxima and Minima of Functions of Two Variables	Whiteboard	
30	IV	Method of Lagrange Multipliers	Whiteboard	
31	V	Double Integrals – Introduction	Whiteboard	
32	V	Change of Variables – Cartesian to Polar Coordinates	Whiteboard	
33	V	Change of Order of Integration	Whiteboard	
34	V	Cylindrical Coordinates	Whiteboard	
35	V	Spherical Coordinates	Whiteboard	
36	V	Finding Areas by Double Integrals	Whiteboard	
37	V	Triple Integrals – Introduction	Whiteboard	
38	V	Finding Volumes by Double and Triple Integrals	Whiteboard	
39	All	Practice Problems – Unit I	Whiteboard	
40	All	Practice Problems – Unit II	Whiteboard	
41	All	Practice Problems – Units III & IV	Whiteboard	
42	All	Practice Problems – Unit V	Whiteboard	
43	All	Previous Year Questions Discussion – Part 1	Whiteboard	
44	All	Previous Year Questions Discussion – Part 2	Whiteboard	
45	All	Recap of Key Formulas and Concepts	Whiteboard	
46	All	Revision Session – Units I–III	Whiteboard	
47	All	Revision Session – Units IV–V	Whiteboard	
48	All	Final Review & Q&A Session	Whiteboard	