

FAST National University of Computer and Emerging Sciences
FALL 2024

MT-1004 Linear Algebra

Contents/Topics		
Determinants and their properties, Minors, Cofactors, Inverse using cofactors, Cramer's Rule	30%	2.1 (1-32) 2.2 (1-23) 2.3 (1-29,31,32)
General Vector Space Dimensions		4.1 (1,2,9,11, 12) Example no 1-5,7 4.6 (1-8,10,12-13,15-20)
Eigenvalues and Eigenvectors Diagonalization Markov Chains	70%	5.1 (1-16) 5.2 (1-20) 5.5 (1-10)
Inner product spaces, Orthogonal and orthonormal bases Gram-Schmidt Process, QR- Decomposition.		6.1 (1-26) 6.2 (1-12, 17-19) 6.3 (1-14, 27-31,44-49)
Orthogonal Matrices Orthogonal Diagonalization Quadratic Forms		7.1 (1-6) 7.2 (1-18) 7.3 (1-8)
Single Value Decomposition		9.4 (1-12)