FAST National University of Computer and Emerging Sciences
FALL 2022
MT-1004 Linear Algebra

Prefer the following exercise for final exam

Contents/Topics	Exercises
Matrix Transformations Application no 1: Network Analysis	**1.8** (1-24, 27-41) **1.10** (1-4)
Determinants and their properties, Minors, Cofactors, Inverse using cofactors, Cramer's Rule	**2.1** (1-32) **2.2** (1-23) **2.3** (1-29,31,32)
General Vector Space Coordinates and Bases Dimensions Change of basis Bases for row, column, and null spaces, Rank and Nullity	**4.1** (1,2,9,11, 12) Example no 1-5,7 **4.5** (1-9, 11-22) **4.6** (1-8,10,12-13,15-20) **4.7** (1-19) **4.8** (1-19,21-30) **4.9** (1-14,19-36)
Eigenvalues and Eigenvectors Diagonalization Markov Chains	**5.1** (1-16) **5.2** (1-20) **5.5** (Example 4, 14,15)
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)