



SCHOOL OF APPLIED SCIENCE & HUMANITIES
DEPARTMENT OF MATHEMATICS

Subject: Linear Algebra
Sem. : I

Subject Code : 25MT103
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Regulation: R25

T5 - Assignment 7

1. Suppose $\{v_1, v_2, v_3, \dots, v_n\}$ is a basis of an inner product space V. Using this basis, construct an orthogonal basis of V.
2. Apply the Gram-Schmidt Orthonormalization process to find an orthonormal basis for the subspace U of \mathbb{R}^n spanned by
 - a. $\{(1,1,0), (1,0,1)\}$.
 - b. $\{(1,1,1,1), (1,2,4,5), (1, -3, -4, -2)\}$.