

SNS COLLEGE OF TECHNOLOGY



(An Autonomous Institution)
Coimbatore-641035.

UNIT 2- Orthogonal Transformation of a Real Sym Matrix

Nature of Quadratic Form

Norture of the quadratic form 1-
Rank: The number of non-zero eigen values.
2, Index: The number of positive square terms.
3, engrature 1. The difference between positive
and negative square terms.
4) Nature :- The nature of the quadratic
forms. aue 5 cases.



SNS COLLEGE OF TECHNOLOGY



(An Autonomous Institution)
Coimbatore-641035.

UNIT 2- Orthogonal Transformation of a Real Symmetric Matrix

Nature of Quadratic Form

7	CASES it cups silsippisopols sit 2 19018
b	positive definete: All, the eigen values are
U	positive. Is nature es positive definite.
2	Negative definite: All the eigen tralues are
	negative.
3,	positive semidefinite: All the eigen values are
130	positive and atleast one 9s zero.
	Negative semidefinète: All the eigen values are
4)	Negative semidefine le fu the eigent routes de
	negative and atleast one 95 2000.
F	1111 7 7 7 1
9)	Index muse 3
	Indefinite: "A" has both positive and negative. Pigen values.