

Table of Contents

Preface	iii
1. Introduction	1
2. Basic Terminology and Facts	8
2.1 General method of approach	8
2.2 Steady systems and matrices	9
2.3 Cyclic systems and matrices	14
3. Some Steady Matrices	19
3.1 Positive transition matrices	19
3.2 Primitive transition matrices	22
4. Some Cyclic Matrices	27
4.1 Irreducible matrices	27
4.2 Almost irreducible matrices	32
5. Numerical Techniques	35
5.1 Nilpotent matrices	36
5.2 Perron values and vectors	37
5.3 Irreducible matrices	42
5.4 Finding the Frobenius vector \underline{f}_0	46

5.5 Almost irreducible matrices	51
6. Special Systems: Leslie and Stochastic Systems	58
6.1 Leslie systems	58
6.2 Stochastic matrices	66
7. Annotated Bibliography	70
7.1 General	71
7.2 Linear generalizations	75
7.3 Linear models used with data	78
7.4 Estimating parameters in the model	80
7.5 Harvesting	83
7.6 Linear models applied to theoretical questions	84
7.7 Nonlinear or continuous models	88
7.8 Alphabetical list of authors	91
References	95