

Index

A

Asymptotically Stable *p.7*

B

Bendixson's Theorem *pp.25 – 29*

Bifurcation *pp.12 – 13*

Bifurcation (Fold) *pp.12 – 13*

Bifurcation (Transcritical) *pp.12 – 15*

Bifurcation Diagram *pp.12, 15 – 17*

C

Carrying Capacity *p.9*

Centers (Equilibrium Point) *pp.22, 26*

Coordinate Transformation Matrix *pp.18, 20*

D

Divergence *pp.25 – 29*

E

Equilibrium Point *pp.3 – 4*

F

Finite Escape Time *pp.9 – 10*

Focus Node *p.22*

Fold Bifurcation *pp.12 – 13*

G

Green's Theorem *pp.25 – 27*

H

Hartman Grobman Theorem *pp.23 – 24*

Homeomorphic *p.23*

Hyperbolic Equilibrium Point *pp.22 – 24*

L

Limit Cycle *pp.10 – 12*

Linearization at a Fixed Point *pp.5 – 8, 23 – 24*

Logistic Equation *p.9*

Lorenz Attractor *p.12*

M

Metzler Matrix *p.31*

N

Node *p.21*

P

Pendulum *pp.7 – 8*

Periodic Orbits *pp.25 – 32*

Phase Portrait *pp.5, 17 – 19*

Pitchfork Bifurcation *pp.12, 15 – 17*

Poincare Bendixson Criterion *p.32*

Positive Invariant Set *pp.21, 29 – 32*

Positive System *p.31*

Predator/prey Model *pp.30 – 31*

R

Region of Attraction	<i>p.15</i>
<i>S</i>	
Saddle Node	<i>pp.19 – 21</i>
Sink Node	<i>pp.19, 21</i>
Source Node	<i>pp.19, 21</i>
Stability	<i>p.5</i>
Stable	<i>p.5</i>
Subcritical Pitchfork Bifurcation	<i>p.17</i>
Supercritical Pitchfork Bifurcation	<i>pp.15 – 16</i>
<i>T</i>	
Taylor Series Expansion	<i>p.6</i>
Transcritical Bifurcation	<i>pp.12 – 15</i>
<i>V</i>	
Van Der Pol Oscillator	<i>pp.11 – 12</i>