

NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

NPTEL Video Course - Mathematics - NOC:Mathematical Modelling: Analysis and Applications

Subject Co-ordinator - Prof. Ameeya Kumar Nayak

Co-ordinating Institute - IIT - Roorkee

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

- Lecture 1 - Introduction to Mathematical Modeling
- Lecture 2 - Discrete Time Linear Models in Population Dynamics - I
- Lecture 3 - Discrete Time Linear Models in Population Dynamics - II
- Lecture 4 - Discrete Time Linear Age Structured Models
- Lecture 5 - Numerical Methods to Compute Eigen Values
- Lecture 6 - Discrete Time Non-Linear Models in Population Dynamics - II
- Lecture 7 - Analysis on Logistic Difference Equation
- Lecture 8 - Classifications of Bifurcation
- Lecture 9 - Discrete Time Non - Linear Models in Population Dynamics - II
- Lecture 10 - Discrete Time Prey - Predator Model
- Lecture 11 - Introduction to Continuous Time Models
- Lecture 12 - Solution of First Order First Degree Differential Equations
- Lecture 13 - Continuous Time Models in Population Dynamics - I
- Lecture 14 - Continuous Time Models in Population Dynamics - II
- Lecture 15 - Stability and Linearization of System of Ordinary Differential Equations
- Lecture 16 - Continuous Time Single Species Models
- Lecture 17 - Qualitative Solution of Differential Equations - Phase Diagrams - I
- Lecture 18 - Qualitative Solution of Differential Equations - Phase Diagrams - II
- Lecture 19 - Continuous Time Lotka - Volterra Competition Model
- Lecture 20 - Continuous Time Prey - Predator Model

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