

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

NPTEL Video Course - Civil Engineering - NOC:Finite Element Method and Computational Structural Dynamics

Subject Co-ordinator - Prof. Manish Shrikhande

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction to Scientific Computations - I
Lecture 2 - Introduction to Scientific Computations - II
Lecture 3 - Basic Concepts of Linear Algebra
Lecture 4 - Polynomial Interpolation and Numerical Quadrature - I
Lecture 5 - Polynomial Interpolation and Numerical Quadrature - II
Lecture 6 - Polynomial Interpolation and Numerical Quadrature - III
Lecture 7 - Polynomial Interpolation and Numerical Quadrature - IV
Lecture 8 - Mathematical Modelling and Approximate Solutions - I
Lecture 9 - Mathematical Modelling and Approximate Solutions - II
Lecture 10 - Mathematical Modelling and Approximate Solutions - III
Lecture 11 - Approximation via Variational Principles
Lecture 12 - Introduction to the Finite Element Concept
Lecture 13 - Finite Elements of C^0 Continuity in 1-D - I
Lecture 14 - Finite Elements of C^0 Continuity in 1-D - II
Lecture 15 - Finite Elements of C^0 Continuity in 1-D - III
Lecture 16 - Finite Elements of C^0 Continuity in 1-D - IV
Lecture 17 - Finite Elements of C^1 Continuity in 1-D - I
Lecture 18 - Finite Elements of C^1 Continuity in 1-D - II
Lecture 19 - Finite Elements of C^0 Continuity in 2-D and 3-D - I
Lecture 20 - Finite Elements of C^0 Continuity in 2-D and 3-D - II
Lecture 21 - Finite Elements of C^0 Continuity in 2-D and 3-D - III
Lecture 22 - Finite Elements of C^0 Continuity in 2-D and 3-D - IV
Lecture 23 - Finite Elements of C^0 Continuity in 2-D and 3-D - V
Lecture 24 - Finite Elements of C^0 Continuity in 2-D and 3-D - VI
Lecture 25 - Finite Elements of C^0 Continuity in 2-D and 3-D - VII
Lecture 26 - Finite Elements of C^0 Continuity in 2-D and 3-D - VIII
Lecture 27 - Finite Elements of C^0 Continuity in 2-D and 3-D - IX
Lecture 28 - Finite Elements of C^0 Continuity in 2-D and 3-D - X
Lecture 29 - Finite Elements of C^0 Continuity in 2-D and 3-D - XI

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- Lecture 30 - Finite Elements of C^0 Continuity in 2-D and 3-D - XII
- Lecture 31 - Mapped Elements - I
- Lecture 32 - Mapped Elements - II
- Lecture 33 - Mapped Elements - III
- Lecture 34 - Mapped Elements - IV
- Lecture 35 - Mapped Elements - V
- Lecture 36 - Variational Crimes
- Lecture 37 - The Patch Test
- Lecture 38 - Finite Elements for Plates and Shells - I
- Lecture 39 - Finite Elements for Plates and Shells - II
- Lecture 40 - Finite Elements for Plates and Shells - III
- Lecture 41 - The Time Dimension and Dynamic Effects - I
- Lecture 42 - The Time Dimension and Dynamic Effects - II
- Lecture 43 - Solution of Linear Simultaneous Equations - I
- Lecture 44 - Solution of Linear Simultaneous Equations - II
- Lecture 45 - Solution of Linear Simultaneous Equations - III
- Lecture 46 - Solution of Linear Simultaneous Equations - IV
- Lecture 47 - The Algebraic Eigenvalue Problem - I
- Lecture 48 - The Algebraic Eigenvalue Problem - II
- Lecture 49 - The Algebraic Eigenvalue Problem - III
- Lecture 50 - The Algebraic Eigenvalue Problem - IV
- Lecture 51 - Time Marching - I
- Lecture 52 - Time Marching - II
- Lecture 53 - Time Marching - III
- Lecture 54 - Discrete Fourier Transform - I
- Lecture 55 - Discrete Fourier Transform - II
- Lecture 56 - Discrete Fourier Transform - III
- Lecture 57 - Discrete Fourier Transform - IV
- Lecture 58 - Discrete Fourier Transform - V
- Lecture 59 - Discrete Fourier Transform - VI
- Lecture 60 - Discrete Fourier Transform - VII