

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

NPTEL Video Course - Mathematics - NOC:Advanced Linear Algebra

Subject Co-ordinator - Prof. Premananda Bera

Co-ordinating Institute - IIT - Roorkee

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

- Lecture 1 - System of Linear Equations
- Lecture 2 - Elementary Row Operations
- Lecture 3 - Row-Reduced Echelon Form and its Applications
- Lecture 4 - Vector Spaces - I
- Lecture 5 - Vector Spaces - II
- Lecture 6 - Basis and Dimensions - I
- Lecture 7 - Basis and Dimensions - II
- Lecture 8 - Change of Ordered Basis in F. D. V. S.
- Lecture 9 - Row Space of a Matrix
- Lecture 10 - Computations concerning Subspaces
- Lecture 11 - Linear Transformations
- Lecture 12 - Concept of Rank
- Lecture 13 - Algebra of Linear Transformations - I
- Lecture 14 - Algebra of Linear Transformations - II
- Lecture 15 - Algebra of Linear Transformations - III
- Lecture 16 - Matrix Representation of Linear Transformations - I
- Lecture 17 - Matrix Representation of Linear Transformations - II
- Lecture 18 - Linear Functional - I
- Lecture 19 - Linear Functional - II
- Lecture 20 - Linear Functional - III
- Lecture 21 - Linear Functional and Transpose of L.T. - I
- Lecture 22 - Linear Functional and Transpose of L.T. - II
- Lecture 23 - Eigenvalue and Eigenvector of Linear Operator - I
- Lecture 24 - Eigenvalue and Eigenvector of Linear Operator - II
- Lecture 25 - Eigenvalue and Eigenvector of Digonalizable L.O.
- Lecture 26 - Annihilating Polynomial of Linear Operator
- Lecture 27 - Cayley-Hamilton Theorem and Its Applications - I
- Lecture 28 - Cayley-Hamilton Theorem and its Applications - II
- Lecture 29 - Invariant Subspaces - I

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- Lecture 30 - Invariant Subspaces - II
- Lecture 31 - Application of Invariant Subspaces - I
- Lecture 32 - Application of Invariant Subspaces - II
- Lecture 33 - Direct Sum Decompositions - I
- Lecture 34 - Direct Sum Decompositions - II
- Lecture 35 - Invariant Direct Sums - I
- Lecture 36 - Invariant Direct Sums - II
- Lecture 37 - Decomposition of space and Operator - I
- Lecture 38 - Decomposition of Space and Operator - II
- Lecture 39 - Applications of Primary Decomposition Theorem - I
- Lecture 40 - Applications of Primary Decomposition Theorem - II
- Lecture 41 - Applications of Primary Decomposition Theorem - III
- Lecture 42 - Inner Products - I
- Lecture 43 - Inner Products - II
- Lecture 44 - Inner Product Spaces - I
- Lecture 45 - Inner Product Spaces - II
- Lecture 46 - Best Approximation in I.P.S.
- Lecture 47 - Orthogonal Projection in I.P.S.
- Lecture 48 - Linear Functionals and Adjoints - I
- Lecture 49 - Linear Functionals and Adjoints - II
- Lecture 50 - Linear Functionals and Adjoints - III
- Lecture 51 - Linear Functionals and Adjoints - IV
- Lecture 52 - Isomorphism in Inner Product Spaces
- Lecture 53 - Unitary Operators - I
- Lecture 54 - Unitary Operators - II
- Lecture 55 - Application of Unitary O. and Initiation of Normal Operator
- Lecture 56 - Normal Operator - I
- Lecture 57 - Normal Operator - II
- Lecture 58 - Normal Operator and It's Spectral Resolution
- Lecture 59 - Singular Value Decomposition of a Matrix
- Lecture 60 - Forms on Inner product Spaces