

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

NPTEL Video Course - Mathematics - NOC:Basic Linear Algebra

Subject Co-ordinator - Prof.Inder Kumar Rana

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Introduction - I  
Lecture 2 - Introduction - II  
Lecture 3 - Introduction - III  
Lecture 4 - Systems of Linear Equations - I  
Lecture 5 - Systems of Linear Equations - II  
Lecture 6 - Systems of Linear Equations - III  
Lecture 7 - Reduced Row Echelon Form and Rank - I  
Lecture 8 - Reduced Row Echelon Form and Rank - II  
Lecture 9 - Reduced Row Echelon Form and Rank - III  
Lecture 10 - Solvability of a Linear System, Linear Span, Basis - I  
Lecture 11 - Solvability of a Linear System, Linear Span, Basis - II  
Lecture 12 - Solvability of a Linear System, Linear Span, Basis - III  
Lecture 13 - Linear Span, Linear Independence and Basis - I  
Lecture 14 - Linear Span, Linear Independence and Basis - II  
Lecture 15 - Linear Span, Linear Independence and Basis - III  
Lecture 16 - Row Space, Column Space, Rank-Nullity Theorem - I  
Lecture 17 - Row Space, Column Space, Rank-Nullity Theorem - II  
Lecture 18 - Row Space, Column Space, Rank-Nullity Theorem - III  
Lecture 19 - Determinants and their Properties - I  
Lecture 20 - Determinants and their Properties - II  
Lecture 21 - Determinants and their Properties - III  
Lecture 22 - Linear Transformations - I  
Lecture 23 - Linear Transformations - II  
Lecture 24 - Linear Transformations - III  
Lecture 25 - Orthonormal Basis, Geometry in  $\mathbb{R}^2$  - I  
Lecture 26 - Orthonormal Basis, Geometry in  $\mathbb{R}^2$  - II  
Lecture 27 - Orthonormal Basis, Geometry in  $\mathbb{R}^2$  - III  
Lecture 28 - Isometries, Eigenvalues and Eigenvectors - I  
Lecture 29 - Isometries, Eigenvalues and Eigenvectors - II

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

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- Lecture 30 - Isometries, Eigenvalues and Eigenvectors - III
- Lecture 31 - Diagonalization and Real Symmetric Matrices - I
- Lecture 32 - Diagonalization and Real Symmetric Matrices - II
- Lecture 33 - Diagonalization and Real Symmetric Matrices - III
- Lecture 34 - Diagonalization and its Applications - I
- Lecture 35 - Diagonalization and its Applications - II
- Lecture 36 - Diagonalization and its Applications - III
- Lecture 37 - Abstract Vector Spaces - I
- Lecture 38 - Abstract Vector Spaces - II
- Lecture 39 - Abstract Vector Spaces - III
- Lecture 40 - Inner Product Spaces - I
- Lecture 41 - Inner Product Spaces - II