

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

NPTEL Video Course - Special Lecture Series - ACM Summer School on Graph Theory and Graph Algorithms

Subject Co-ordinator - Dr. N S. Narayanaswamy

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction to Graph Theory - Part 1  
Lecture 2 - Introduction to Graph Theory - Part 2  
Lecture 3 - Introduction to Graph Algorithms - Part 1  
Lecture 4 - Introduction to Graph Algorithms - Part 2  
Lecture 5 - Havel Hakimi Theorem - Part 1  
Lecture 6 - Havel Hakimi Theorem - Part 2  
Lecture 7 - Havel Hakimi Theorem - Part 3  
Lecture 8 - Graph Traversals - Part 1  
Lecture 9 - Graph Traversals - Part 2  
Lecture 10 - Topological Sort and Mengers Theorem - Part 1  
Lecture 11 - Topological Sort and Mengers Theorem - Part 2  
Lecture 12 - Topological Sort and Mengers Theorem - Part 3  
Lecture 13 - Hamiltonian Graphs - Part 1  
Lecture 14 - Hamiltonian Graphs - Part 2  
Lecture 15 - Shortest path Algorithms 1 - Part 1  
Lecture 16 - Shortest path Algorithms 1 - Part 2  
Lecture 17 - Shortest path Algorithms 1 - Part 3  
Lecture 18 - Shortest path Algorithms 1 - Part 4  
Lecture 19 - Matching in Graphs - Part 1  
Lecture 20 - Matching in Graphs - Part 2  
Lecture 21 - Some Graph Theoretic Puzzles - Part 1  
Lecture 22 - Some Graph Theoretic Puzzles - Part 2  
Lecture 23 - Network Flow Algorithms - Part 1  
Lecture 24 - Network Flow Algorithms - Part 2  
Lecture 25 - Network Flow Algorithms - Part 3  
Lecture 26 - Network Flow Algorithms - Part 4  
Lecture 27 - Network Flow Algorithms - Part 5  
Lecture 28 - Network Flow Algorithms - Part 6  
Lecture 29 - Network Flows - Part 1

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Lecture 30 - Network Flows - Part 2  
Lecture 31 - Network Flows - Part 3  
Lecture 32 - Network Flows - Part 4  
Lecture 33 - Turanâ s and Madrurâ s theorem - Part 1  
Lecture 34 - Turanâ s and Madrurâ s theorem - Part 2  
Lecture 35 - NP Computations - Part 1  
Lecture 36 - NP Computations - Part 2  
Lecture 37 - Spectral Graph Theory-I - Part 1  
Lecture 38 - Spectral Graph Theory-I - Part 2  
Lecture 39 - Spectral Graph Theory-I - Part 3  
Lecture 40 - NP Computations II - Part 1  
Lecture 41 - NP Computations II - Part 2  
Lecture 42 - Graph Coloring - Part 1  
Lecture 43 - Graph Coloring - Part 2  
Lecture 44 - Spectral Graph Theory-II - Part 1  
Lecture 45 - Spectral Graph Theory-II - Part 2  
Lecture 46 - NP Computations Reductions - Part 1  
Lecture 47 - NP Computations Reductions - Part 2  
Lecture 48 - NP Computations Reductions - Part 3  
Lecture 49 - Spectral Graph Theory-III - Part 1  
Lecture 50 - Planar Graphs - Part 1  
Lecture 51 - Planar Graphs - Part 2  
Lecture 52 - NP Computations and Approximation Algorithms - Part 1  
Lecture 53 - NP Computations and Approximation Algorithms - Part 2  
Lecture 54 - Spectral Graph Theory-IV - Part 1  
Lecture 55 - Spectral Graph Theory-IV - Part 2  
Lecture 56 - Approximation Algorithms I - Part 1  
Lecture 57 - Approximation Algorithms I - Part 2  
Lecture 58 - Social Network Analysis - Part 1  
Lecture 59 - Social Network Analysis - Part 2  
Lecture 60 - Spectral Graph Theory-V - Part 1  
Lecture 61 - Spectral Graph Theory-V - Part 2  
Lecture 62 - Approximation Algorithms II - Part 1  
Lecture 63 - Approximation Algorithms II - Part 2  
Lecture 64 - Spectral Graph Theory-VI - Part 1  
Lecture 65 - Spectral Graph Theory-VI - Part 2  
Lecture 66 - RSA Crypto - Part 1  
Lecture 67 - RSA Crypto - Part 2  
Lecture 68 - Approximation Algorithms III - Part 1

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Lecture 69 - Approximation Algorithms III - Part 2  
Lecture 70 - Spectral Graph Theory-VII - Part 1  
Lecture 71 - Spectral Graph Theory-VII - Part 2  
Lecture 72 - Exact Exponential Algorithms - Part 1  
Lecture 73 - Exact Exponential Algorithms - Part 2  
Lecture 74 - Interconnection Networks - Part 1  
Lecture 75 - Interconnection Networks - Part 2  
Lecture 76 - Kernelization - Part 1  
Lecture 77 - Kernelization - Part 2  
Lecture 78 - Kernelization - Part 3  
Lecture 79 - Introduction to Parameterized Algorithms - Part 1  
Lecture 80 - Introduction to Parameterized Algorithms - Part 2  
Lecture 81 - Chordal Graphs - Part 1  
Lecture 82 - Chordal Graphs - Part 2  
Lecture 83 - Branching - Part 1  
Lecture 84 - Branching - Part 2  
Lecture 85 - Interval Graphs and Split Graphs - Part 1  
Lecture 86 - Interval Graphs and Split Graphs - Part 2  
Lecture 87 - Vertex cover linear vertex kernel using LP - Part 1  
Lecture 88 - Vertex cover linear vertex kernel using LP - Part 2  
Lecture 89 - Comparability Graphs - Part 1  
Lecture 90 - Comparability Graphs - Part 2  
Lecture 91 - Introduction to Randomized Algorithms and Karger's Min-cut Algorithm - Part 1  
Lecture 92 - Introduction to Randomized Algorithms and Karger's Min-cut Algorithm - Part 2  
Lecture 93 - Probability Methods to Ramsey Number - Part 2  
Lecture 94 - Probability Methods to Ramsey Number - Part 2  
Lecture 95 - Color Coding - Part 1  
Lecture 96 - Color Coding - Part 2  
Lecture 97 - Fast Min-cut Algorithm and its analysis - Part 1  
Lecture 98 - Fast Min-cut Algorithm and its analysis - Part 2  
Lecture 99 - Box Representations of Graphs - Part 1  
Lecture 100 - Box Representations of Graphs - Part 2  
Lecture 101 - Hardness for FPT - Part 1  
Lecture 102 - Hardness for FPT - Part 2  
Lecture 103 - Application of min-cut Algorithm