NPTEL Video Course - Mathematics - NOC:Combinatorics

Subject Co-ordinator - Prof. Narayanan N

Co-ordinating Institute - IIT - Madras

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

Lecture 30 - Euler pentagonal number theorem
Lecture 31 - Graphs - introduction
Lecture 32 - Paths Walks, Cycles
Lecture 33 - Digraphs and functional digraphs
Lecture 34 - Componenets, Connectivity, Bipartite graphs
Lecture 35 - Acyclic graphs
Lecture 36 - Graph colouring
Lecture 37 - Mycielski graphs
Lecture 38 - Product of graphs
Lecture 39 - Menger's theorem
Lecture 40 - System of Distinct representatives
Lecture 41 - Planar graphs
Lecture 42 - Euler identity
Lecture 43 - Map colouring problem - History
Lecture 44 - The Discharging Method - Part 1
Lecture 45 - The Discharging Method - Part 2
Lecture 46 - Introduction to Group actions
Lecture 47 - Colouring and symmetries - examples
Lecture 48 - Bursides lemma
Lecture 49 - Proof of Bursides lemma
Lecture 50 - Polya's theorem
Lecture 51 - Species of structures- definitions and examples
Lecture 52 - Associated seris and Product of species
Lecture 53 - Species: Substitution and Derivative
Lecture 54 - Species: Pointing and countilg labelled trees
Lecture 55 - Review and Further directions
Lecture 56 - More on further topics
Lecture 57 - Linear Algebra method: Ultra short introduction
Lecture 58 - Probabiistic Method: Ultra short introduction