

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

NPTEL Video Course - Mathematics - NOC:Introduction to Algebraic Topology - Part II

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Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Introduction
Lecture 2 - Attaching cells
Lecture 3 - Subcomplexes and Examples
Lecture 4 - More examples
Lecture 5 - More Examples
Lecture 6 - Topological Properties
Lecture 7 - Coinduced Topology
Lecture 8 - Compactly generated topology on Products
Lecture 9 - Product of Cell complexes
Lecture 10 - Product of Cell complexes (Continued...)
Lecture 11 - Partition of Unity on CW-complexes
Lecture 12 - Partition of Unity (Continued...)
Lecture 13 - Homotopical Aspects
Lecture 14 - Homotopical Aspects (Continued...)
Lecture 15 - Cellular Maps
Lecture 16 - Cellular Maps (Continued...)
Lecture 17 - Homotopy exact sequence of a pair
Lecture 18 - Homotopy exact sequence of a fibration
Lecture 19 - Categories-Definitions and Examples
Lecture 20 - More Examples
Lecture 21 - Functors
Lecture 22 - Equivalence of Functors (Continued...)
Lecture 23 - Universal Objects
Lecture 24 - Basic Homological Algebra
Lecture 25 - Diagram-Chasing
Lecture 26 - Homology of Chain Complexes
Lecture 27 - Euler Characteristics
Lecture 28 - Singular Homology Groups
Lecture 29 - Basic Properties of Singular Homology

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- Lecture 30 - Excision
- Lecture 31 - Examples of Excision-Mayer Vietoris
- Lecture 32 - Applications
- Lecture 33 - Applications (Continued...)
- Lecture 34 - The Singular Simplicial Homology
- Lecture 35 - Simplicial Homology
- Lecture 36 - Simplicial Homology (Continued...)
- Lecture 37 - CW-Homology and Cellular Singular Homology
- Lecture 38 - Construction of CW-chain complex
- Lecture 39 - CW structure and CW homology of Lens Spaces
- Lecture 40 - Assorted Topics
- Lecture 41 - Some Applications of Homology
- Lecture 42 - Applications of LFT
- Lecture 43 - Jordan-Brouwer
- Lecture 44 - Proof of Lemmas
- Lecture 45 - Relation between H_1 and H_1
- Lecture 46 - All Postponed Proofs
- Lecture 47 - Proofs (Continued...)
- Lecture 48 - Definitions and Examples
- Lecture 49 - Paracompactness
- Lecture 50 - Manifolds with Boundary
- Lecture 51 - Embeddings and Homotopical Aspects
- Lecture 52 - Homotopical Aspects (Continued...)
- Lecture 53 - Classification of 1-manifolds
- Lecture 54 - Classification of 1-manifolds (Continued...)
- Lecture 55 - Triangulation of Manifolds
- Lecture 56 - Pseudo-Manifolds
- Lecture 57 - One result due to Poincaré and another due to Munkres
- Lecture 58 - Some General Remarks
- Lecture 59 - Classification of Compact Surface
- Lecture 60 - Final Reduction-Completion of the Proof
- Lecture 61 - Proof of Part B
- Lecture 62 - Orientability