

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

NPTEL Video Course - Physics - NOC:Theory of Groups for Physics Applications

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Co-ordinating Institute - IIT - Bombay

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

- Lecture 1 - Introduction
- Lecture 2 - Algebraic Preliminaries
- Lecture 3 - Basic Group Concepts and Low Order Groups - I
- Lecture 4 - Basic Group Concepts and Low Order Groups - II
- Lecture 5 - Lagrange's Theorem and Cayley's Theorem - I
- Lecture 6 - Lagrange's Theorem and Cayley's Theorem - II
- Lecture 7 - Factor Group Conjugacy Classes - I
- Lecture 8 - Factor Group Conjugacy Classes - II
- Lecture 9 - Cycle Structures and Molecular Notation - I
- Lecture 10 - Cycle Structures and Molecular Notation - II
- Lecture 11 - Cycle Structures and Classification - I
- Lecture 12 - Cycle Structures and Classification - II
- Lecture 13 - Point Group Notation and Factor Group - I
- Lecture 14 - Point Group Notation and Factor Group - II
- Lecture 15 - Representation Theory - I
- Lecture 16 - Representation Theory - II
- Lecture 17 - Representation Theory - III
- Lecture 18 - Representation Theory - IV
- Lecture 19 - Schur's Lemma and Orthogonality Theorem - I
- Lecture 20 - Schur's Lemma and Orthogonality Theorem - II
- Lecture 21 - Orthogonality For Characters - I
- Lecture 22 - Orthogonality For Characters - II
- Lecture 23 - Character Tables and Molecular Applications - I
- Lecture 24 - Character Tables and Molecular Applications - II
- Lecture 25 - Preliminaries About The Continuum - I
- Lecture 26 - Preliminaries About The Continuum - II
- Lecture 27 - Classical Groups - I
- Lecture 28 - Classical Groups - II
- Lecture 29 - Classical Groups-Topology - I

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- Lecture 30 - Classical Groups-Topology - II
- Lecture 31 - $SO(3)$ And Matrix Exponent - I
- Lecture 32 - $SO(3)$ And Matrix Exponent - II
- Lecture 33 - Generators, Discussion Of Lie's Theorems - I
- Lecture 34 - Generators, Discussion Of Lie's Theorems - II
- Lecture 35 - Group Algebras; $SO(3)$ - $SU(2)$ Correspondence - I
- Lecture 36 - Group Algebras; $SO(3)$ - $SU(2)$ Correspondence - II
- Lecture 37 - $SO(3)$, $SU(2)$ Representations - I
- Lecture 38 - $SO(3)$, $SU(2)$ Representations - II
- Lecture 39 - Representation On Function Spaces - I
- Lecture 40 - Representation On Function Spaces - II
- Lecture 41 - Lorentz Boosts, $SO(3,1)$ Algebra - I
- Lecture 42 - Lorentz Boosts, $SO(3,1)$ Algebra - II
- Lecture 43 - Representation Of Lorentz Group And Clifford Algebra - I
- Lecture 44 - Representation Of Lorentz Group And Clifford Algebra - II
- Lecture 45 - $SU(3)$ And Lie's Classification - I
- Lecture 46 - $SU(3)$ And Lie's Classification - II
- Lecture 47 - Fundamental Symmetries Of Physics - I
- Lecture 48 - Fundamental Symmetries Of Physics - II