

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

NPTEL Video Course - Mechanical Engineering - Theory of Mechanism

Subject Co-ordinator - Prof. Sujatha Srinivasan

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Review of Kinematics Fundamentals-I
Lecture 2 - Links, Pairs, Kinematic Chains; Planar Mobility Criterion
Lecture 3 - Mobility of Mechanisms, Grubler's Criterion and Applications
Lecture 4 - Inversions, Grashof Criterion, Kinematic equivalence
Lecture 5 - Linkage Synthesis Classification, 2-position Motion Generation
Lecture 6 - Driver dyad, Quick-return synthesis - I
Lecture 7 - Quick-return synthesis - II, 3-position Motion Generation
Lecture 8 - Specified fixed pivots, Path generation
Lecture 9 - Function generation
Lecture 10 - Function generation using relative poles
Lecture 11 - Structural Error, and Chebyshev Spacing
Lecture 12 - Chebyshev Spacing
Lecture 13 - Analytical Linkage Synthesis-I
Lecture 14 - Analytical Linkage Synthesis-II
Lecture 15 - Four-bar Position Analysis, Dyad or Standard Form Synthesis
Lecture 16 - Dyad Form Synthesis
Lecture 17 - Dyad Form Synthesis
Lecture 18 - Dyad Form Synthesis
Lecture 19 - Dyad Form Synthesis
Lecture 20 - Coupler Curves - I
Lecture 21 - Coupler Curves - II, Fixed and Moving Centroides
Lecture 22 - Coupler Curves - III, Symmetrical Coupler Curves
Lecture 23 - Roberts-Chebyshev Theorem
Lecture 24 - Cognates
Lecture 25 - Velocity Analysis
Lecture 26 - Velocity Analysis
Lecture 27 - Velocity Analysis
Lecture 28 - Auxiliary Point Method
Lecture 29 - Velocity and Acceleration Analysis

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- Lecture 30 - Acceleration Analysis
- Lecture 31 - Acceleration Analysis
- Lecture 32 - Force Analysis of Mechanisms, Mechanical Advantage
- Lecture 33 - Force Analysis of Mechanisms - II
- Lecture 34 - Balancing of Mechanisms using Counterweights
- Lecture 35 - Balancing of Mechanisms using Springs
- Lecture 36 - Spatial Mechanisms
- Lecture 37 - Introduction to the Kinematics of Spatial Mechanisms