

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

NPTEL Video Course - Mechanical Engineering - NOC:A Short Lecture series on Contour Integration in the Complex Plane

Subject Co-ordinator - Prof. Venkata Sonti

Co-ordinating Institute - IISc - Bangalore

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

Lecture 1 - Introduction to complex variables

Lecture 2 - Cauchy Riemann Equations

Lecture 3 - Analytic Functions

Lecture 4 - Simple definitions

Lecture 5 - Definition of sets, domains, theorem on antiderivative

Lecture 6 - Cauchy Goursat Theorem

Lecture 7 - Implications of Cauchy Goursat Theorem, Cauchy Integral Formula

Lecture 8 - Implications of CIF, converse of CG theorem

Lecture 9 - Examples in contour integrals, ratios of polynomials

Lecture 10 - Contour integration of sinc function

Lecture 11 - Method of path deformation

Lecture 12 - Method of path deformation (Continued...)

Lecture 13 - Infinite and finite branch cuts

Lecture 14 - Finite Branch Cut

Lecture 15 - Infinite branch cut example

Lecture 16 - Contour integration

Lecture 17 - Finite square root branch cut

Lecture 18 - Example on finite branch cut

Lecture 19 - Pole on a branch cut

Lecture 20 - L shaped branch cut

Lecture 21 - L shaped branch cut continued

Lecture 22 - Inverse Laplace Transform

Lecture 23 - Inverse Laplace Transform (Continued...)

Lecture 24 - Additional material or corrections to lectures

Lecture 25 - Summary of the total course

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