NPTEL Video Course - Humanities and Social Sciences - NOC:Calculus of One Real Variable

Subject Co-ordinator - Dr. Joydeep Dutta

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Introduction to Numbers
Lecture 2 - Countability and Uncountability
Lecture 3 - Examples of Irrational numbers
Lecture 4 - Functions
Lecture 5 - Limits of Functions - I
Lecture 6 - Limits of Functions - II
Lecture 7 - Continuous Functions
Lecture 8 - Intermediate Value Theorem
Lecture 9 - Maximum Value Theorem
Lecture 10 - Supremum and Infimum
Lecture 11 - Derivative of a Function
Lecture 12 - Rules of Differentiation
Lecture 13 - Maxima and Minima
Lecture 14 - Rolles Theorem and Lagrange Mean Value Theorem (MVT)
Lecture 15 - Monotonic Functions and Inverse Functions
Lecture 16 - Newtonâ s Method for solving Equations
Lecture 17 - Optimization Problems
Lecture 18 - Integration-I
Lecture 19 - Integration-II
Lecture 20 - Integration-III
Lecture 21 - Integration theory of Riemann - I
Lecture 22 - Integration theory of Riemann - II
Lecture 23 - Integration Rule
Lecture 24 - Fundamental Theorem of Calculus (in Riemann style)
Lecture 25 - The Kurzweil-Henstock Integral (K-H Integral)
Lecture 26 - Calculating Indefinite Integrals
Lecture 27 - Improper Integral - I
Lecture 28 - Improper Integral - II
Lecture 29 - Application of Definite Integral - I

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Lecture 30 - Application of definite Integral - II
Lecture 31 - Application of definite Integral - III
Lecture 32 - Application of definite Integral - III (Continued......)
Lecture 33 - Numerical Integration - I
Lecture 34 - Numerical Integration - II
Lecture 35 - Sequences
Lecture 36 - Sequences (Continued...)
Lecture 37 - Infinite Series
Lecture 38 - infinite series (Continued...)
Lecture 39 - Taylors Theorem, other issues and end of the course - I
Lecture 40 - Taylors Theorem, other issues and end of the course - II
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