

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

NPTEL Video Course - Mathematics - NOC:Basic Calculus 1

Subject Co-ordinator - Prof. Arindama Singh

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - The Real line - Part 1  
Lecture 2 - The Real line - Part 2  
Lecture 3 - Absolute value - Part 1  
Lecture 4 - Absolute value - Part 2  
Lecture 5 - Functions - Part 1  
Lecture 6 - Functions - Part 2  
Lecture 7 - Transcendental and trigonometric Functions - Part 1  
Lecture 8 - Transcendental and trigonometric Functions - Part 2  
Lecture 9 - Limits of functions - Part 1  
Lecture 10 - Limits of functions - Part 2  
Lecture 11 - Algebra of limits - Part 1  
Lecture 12 - Algebra of limits - Part 2  
Lecture 13 - One-sided limits - Part 1  
Lecture 14 - One-sided limits - Part 2  
Lecture 15 - Limits at infinity - Part 1  
Lecture 16 - Limits at infinity - Part 2  
Lecture 17 - Infinite limits - Part 1  
Lecture 18 - Infinite limits - Part 2  
Lecture 19 - Continuity - Part 1  
Lecture 20 - Continuity - Part 2  
Lecture 21 - Algebra of continuous functions - Part 1  
Lecture 22 - Algebra of continuous functions - Part 2  
Lecture 23 - Results on continuity - Part 1  
Lecture 24 - Results on continuity - Part 2  
Lecture 25 - Differentiability - Part 1  
Lecture 26 - Differentiability - Part 2  
Lecture 27 - Derivative and tangent - Part 1  
Lecture 28 - Derivative and tangent - Part 2  
Lecture 29 - Rules of differentiation - Part 1

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- Lecture 30 - Rules of differentiation - Part 2
- Lecture 31 - Differentiation exercises - Part 1
- Lecture 32 - Differentiation exercises - Part 2
- Lecture 33 - Maxima and minima - Part 1
- Lecture 34 - Maxima and minima - Part 2
- Lecture 35 - Rolle's theorem and mean value theorem - Part 1
- Lecture 36 - Rolle's theorem and mean value theorem - Part 2
- Lecture 37 - Using Rolle's theorem and Mean value theorem - Part 1
- Lecture 38 - Using Rolle's theorem and Mean value theorem - Part 2
- Lecture 39 - First derivative test - Part 1
- Lecture 40 - First derivative test - Part 2
- Lecture 41 - Second derivative test - Part 1
- Lecture 42 - Second derivative test - Part 2
- Lecture 43 - Concavity - Part 1
- Lecture 44 - Concavity - Part 2
- Lecture 45 - Linearization and differential - Part 1
- Lecture 46 - Linearization and differential - Part 2
- Lecture 47 - L'Hôpital's rules - Part 1
- Lecture 48 - L'Hôpital's rules - Part 2
- Lecture 49 - Definite integral - Part 1
- Lecture 50 - Definite integral - Part 2
- Lecture 51 - Properties of integral - Part 1
- Lecture 52 - Properties of integral - Part 2
- Lecture 53 - Fundamental theorem of calculus - Part 1
- Lecture 54 - Fundamental theorem of calculus - Part 2
- Lecture 55 - Applications of Fundamental theorem of calculus - Part 1
- Lecture 56 - Applications of Fundamental theorem of calculus - Part 2
- Lecture 57 - Rule of substitution - Part 1
- Lecture 58 - Rule of substitution - Part 2
- Lecture 59 - Area between curves - Part 1
- Lecture 60 - Area between curves - Part 2
- Lecture 61 - Volumes by slicing - Part 1
- Lecture 62 - Volumes by slicing - Part 2
- Lecture 63 - The disk method - Part 1
- Lecture 64 - The disk method - Part 2
- Lecture 65 - The washer method - Part 1
- Lecture 66 - The washer method - Part 2
- Lecture 67 - Volumes by cylindrical shells - Part 1
- Lecture 68 - Volumes by cylindrical shells - Part 2

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Lecture 69 - Lengths of curves - Part 1  
Lecture 70 - Lengths of curves - Part 2  
Lecture 71 - Areas of surface of revolution - Part 1  
Lecture 72 - Areas of surface of revolution - Part 2