

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

NPTEL Video Course - Mathematics - NOC:Measure Theoretic Probability 1

Subject Co-ordinator - Prof. Suprio Bhar

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Introduction to the course Measure Theoretic Probability 1

Lecture 2 - Sigma-fields and Measurable spaces

Lecture 3 - Fields and Generating sets for Sigma-fields

Lecture 4 - Borel Sigma-field on \mathbb{R} and other sets

Lecture 5 - Limits of sequences of sets and Monotone classes

Lecture 6 - Measures and Measure spaces

Lecture 7 - Probability Measures

Lecture 8 - Properties of Measures - I

Lecture 9 - Properties of Measures - II

Lecture 10 - Properties of Measures - III

Lecture 11 - Measurable functions

Lecture 12 - Borel Measurable functions

Lecture 13 - Algebraic properties of Measurable functions

Lecture 14 - Limiting behaviour of measurable functions

Lecture 15 - Random Variables and Random Vectors

Lecture 16 - Law or Distribution of an RV

Lecture 17 - Distribution Function of an RV

Lecture 18 - Decomposition of Distribution functions

Lecture 19 - Construction of RVs with a specified law

Lecture 20 - Caratheodery Extension Theorem

Lecture 21 - From Distribution Functions to Probability Measures - I

Lecture 22 - From Distribution Functions to Probability Measures - II

Lecture 23 - Lebesgue-Stieltjes Measures

Lecture 24 - Properties of Lebesgue Measure on \mathbb{R}

Lecture 25 - Distribution Functions and Probability Measures in higher dimensions

Lecture 26 - Integration of measurable functions

Lecture 27 - Properties of Measure Theoretic Integration - I

Lecture 28 - Properties of Measure Theoretic Integration - II

Lecture 29 - Monotone Convergence Theorem

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- Lecture 30 - Computation of Expectation for Discrete RVs
- Lecture 31 - MCT and the Linearity of Measure Theoretic Integration
- Lecture 32 - Sets of measure zero and Measure Theoretic Integration
- Lecture 33 - Fatou's Lemma and Dominated Convergence Theorem
- Lecture 34 - Riemann and Lebesgue integration
- Lecture 35 - Computations involving Lebesgue Integration
- Lecture 36 - Decomposition of Measures
- Lecture 37 - Absolutely Continuous RVs
- Lecture 38 - Expectation of Absolutely Continuous RVs
- Lecture 39 - Inequalities involving moments of RVs
- Lecture 40 - Conclusion to the course Measure Theoretic Probability 1